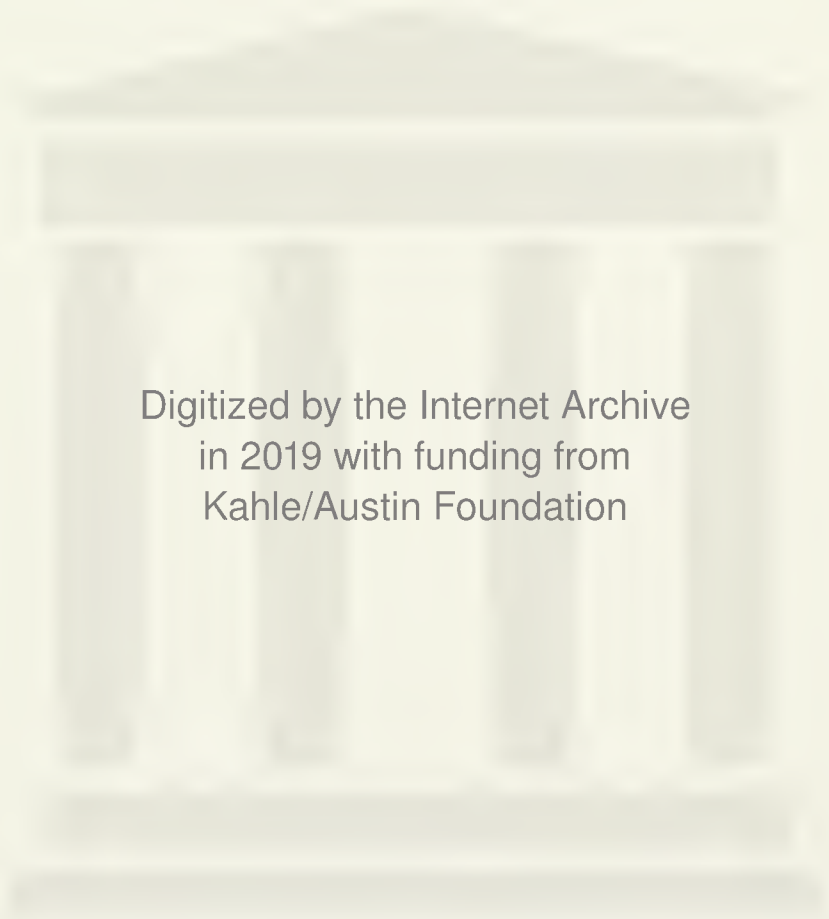


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HISTORY OF GREEK PHILOSOPHY

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ARISTOTLE

BY

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To

ELEANOR WOOD WHITEHEAD

A PHILOSOPHER AND FRIEND

180446

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PREFACE

THIS book was originally planned and written to form, with my recently published work on the Sophists, Socrates, and Plato, a single volume. The result proved too bulky, and the "Aristotle" had to be thrown off from the original mass and given independent existence, much as the moon by an excess of centrifugal force was catapulted from the earth. Consequently it bears scars of its lunar and dependent origin, which cannot be altogether hidden. But it will also bear independent witness, I hope, to the faith, already expressed in my previous books, that philosophy is exciting and its history romantic. That faith I have tried once more to express in works. If the present volume succeeds in making converts to it, or even in disturbing the vulgar superstition that philosophy is intrinsically a dull subject, I shall be content.

Here, as in my former books, I must disclaim any original ideas or research. I have profited by the labors of others, and repeated their criticisms and suggestions; but not, I trust, without sufficient acknowledgment of my indebtedness. At the same time, I should not wish it to be supposed that the more vulgar illustrations I have employed, and the flippancies of which I shall be accused, are other than my own.

I must express my thanks once more to the friends who helped me in one way or another with those chapters of the larger work that make up the book at hand. I am under particular obligation to my colleagues, Professors L. T. More, G. A. Tawney, R. K. Hack, and R. P. Casey of the University of Cincinnati; to Professors R. B. Perry and R. M. Eaton of Harvard University; to Mrs. J. J. Whitehead, Jr.; and to Mr. Howard Sagmaster who typed the manuscript.

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HISTORY OF GREEK PHILOSOPHY

CHAPTER I

THE LIFE OF ARISTOTLE

I

CAUGHT up and swept along though it is in the thunderous charge of Alexander the Great across the field of history, the life of Aristotle is quieter and more sedentary, both outwardly and inwardly, than that of Plato. Lived more apart from the times, and less agitated by a devotion to "causes," political, moral, and religious, it is briefer not only in years—Aristotle died at the age of sixty-three—but also in incident, not to speak of physical and spiritual adventure. It lacks the romance, the conflict, the agitation by hope and fear, the sense of exile and pilgrimage, that make Plato's career so stirring. The same perhaps is true of the Aristotelian system. In spite of its greater bulk and its more encyclopaedic range, we shall find it more compassable and more compact than the Platonic philosophy. Also, it may seem in comparison less exalted and less splendid. But at the same time we shall perhaps feel ourselves in touch with a more patient, cautious, and impartial mind.

Aristotle's education, like that of Plato, began long before his birth, and the circumstances that contributed to his making doubtless did much to color more soberly the glass through which he viewed the world. Plato, Athenian and aristocrat that he was, instinctively looked at the universe from beneath raised eyebrows, and saw it from the top down. Even in his most scientific and detached moments he was never quite free

from moral and aesthetic fastidiousness. His breeding made him naturally supercilious towards the pretensions of any "hoi polloi," be it the masses or the "Many." The world of particular things, he instinctively felt, was born metaphysically vulgar and to a subordinate place in Reality. His first impulse towards it was not scientific but religious and political. The Many, like the masses, were not to be studied coolly on their own merits. They were there first of all to exemplify the benefits of formation and government from on high.

Aristotle, however, emerged from a provincial, comparatively middle-class background. The practice of medicine in a small, remote city, not government and the maintenance of high position in a great capital, was the long established habit of his family. Moreover, not only was his heritage pre-eminently scientific and matter of fact, but he himself was a scientist and "realist" by disposition, without ethical or artistic squeamishness and with a head not easily turned by his heart. Where the poet, religious mystic, and enthusiast in Plato showed evidences of philosophic nausea, Aristotle probed, analyzed, and weighed. His interest lay in sizing up the world as it was, not in concentrating upon things as they would be if only they were completely amenable to reason and the Good. He was at ease with the "common people" of the universe, the Many, the particular objects. Everything, then, conspired to make him see his world and build his system from the bottom up, and to attach a greater, if not a supreme metaphysical importance to individual things—the tangible facts of ordinary observation and experiment, with which instinctively he was chiefly concerned.

Aristotle was born in 384 B. C. His native town, Stagira, lay in the newer, rougher world of Thrace, but in a portion of it, the Chalcidic peninsula, that had long been colonized by Greeks. Its Hellenism, indeed, was if anything accentuated by its frontier situation on the border of the despised "barbarian" world, where its flourishing cities, banded together in a powerful league, were still struggling to keep their liberties intact and their ideals unspotted in the face of the influence and rising power of Macedon. But it was only through constant

effort, backed and supported from the south, that they did so, and the tenseness and sharp contrasts of light and shade in the atmosphere in which his first years were spent may have had something to do with the disdain for all non-Greek ways and institutions so marked in Aristotle's political philosophy.¹

Most of the Chalcidic towns, as the name of the peninsula shows, looked to Chalcis in Euboea as their mother city, but Stagira had been founded by emigrants from the island of Andros, and the Chalcidic element was a later influx. Aristotle united in himself the two strains. His mother was of Euboean descent, and indeed, it would seem, still owned inherited property in Chalcis. His father, Nicomachus, was a prominent physician, sprung from a long line of doctors, and traced his descent, as most doctors did, to Asclepius, the patron saint of medicine, son of Apollo. So Aristotle, like Plato, could claim kinship with the Gods.

Nicomachus must have been a man of considerable eminence, for he was offered by Amyntas II of Macedon, Alexander the Great's grandfather, the post of court physician, and he is spoken of not only as the king's doctor but as his friend. The acceptance of the offer made it necessary for the family to move to Pella, the Macedonian capital, and here it was that a part, at least, of Aristotle's boyhood was spent. Of the next few years we know almost nothing. Pella itself had little to recommend it. Its greatness had been but recently thrust upon it, and what there was of it was largely a mushroom growth. If the court had been still established at Edessa, the older seat of the Macedonian kings, there would at least have been some compensation in the scenery. But the new capital was set in the midst of unhealthy swamps, on the shores of a fresh-water lake.

Life, too, was quite different from that of a Greek town. Macedon was the "wild west" of the Hellenic world. Its royal line might be of good Doric blood, but the land itself was considered by many quite beyond the pale of Hellenism and civilization. The people were country bred and country loving, not dwellers in cities, and they cared little for those amenities

¹ Cf. Taylor, *Aristotle*, p. 11.

of urban existence so dear to the true Greek. There had, to be sure, been a short era of forced, imported culture under Amyntas' predecessor, Archelaus, but it had disappeared leaving no trace behind. The nobility had reverted to their estates, where they lived a true Homeric life, hunting, feasting, drinking, and roistering. To these sports they added at the moment that of "shooting up" one another in baronial feuds and petty civil wars. Indeed, the general anarchy was so great that conditions have been likened to those in England in the twelfth, and France in the fifteenth century.² To put it in modern terms, Aristotle's case was not unlike that of some European boy of good family and tradition brought by his father's diplomatic career to early-nineteenth-century Washington, with a strong dash of a rough American mining town thrown in, there to pass his early years. And the doctor Nicomachus, and still more his wife, had, we may imagine, many a homesick moment when they longed for the law and order, the comforts, the sightliness, and the civilization of old Stagira, not to speak of its pleasant shores and fresh sea-breezes.

Aristotle's first sojourn in Macedon, however, was short. Both his parents died while he was in his early 'teens or even sooner, and we next come upon him as an orphan committed to the care of a relative at home, named Proxenus. Whether Nicomachus had lived long enough to instruct him in anatomy and medicine—doctoring being in those days a family business handed down from father to son—we do not know. Nor have we any further light upon his education and his personality until he is eighteen. Then he suddenly appears again, following the fashion of so many young men from his part of the world and coming up to Athens to study at the Academy. Plato, however, was away at the time on his second trip to Sicily, trying to turn the younger Dionysius into a philosopher-king, so that for a couple of years Aristotle had to be content with assistant professors like Xenocrates and Speusippus. Or it may be that he spent the time studying with Plato's foremost academic rival, the brilliant orator, political essayist, and pro-Macedonian expounder of pan-Hellenism, Isocrates.

² Curteis, *Rise of the Macedonian Empire*, p. 14.

The probably exaggerated and malicious description of him as a student at the Academy is amusing—that he was ultra-smart and a good deal of a fop, lisped affectedly, and in Plato's eyes paid far more attention to the details of toilette and dress than was becoming in a professed devotee of the philosophic life. There may be a basis of truth in these stories, for when we come to Aristotle's account in his *Ethics* of how a truly superior and distinguished man should behave—and there can be little doubt that he considered himself such—we find mention of a grave demeanor, a slow and stately gait, a deeply modulated voice, and in general, an appearance thoroughly well valeted morally as well as sartorially.³ However that may be, he was ultra-smart in another sense of the word, and was destined to tower intellectually as high above his companions and lesser instructors in the Academy as Plato above the fellow-disciples of Socrates. He showed, too, his distinct bent for philosophy more quickly than did Plato, and apparently was soon to the fore in the School discussions.

There are stories, indeed, of early and somewhat acrimonious disputes with the master himself, and even of out and out rudeness. But these are probably mere ill-natured gossip. The weight of evidence is that his personal attitude was always one of great respect and affection.⁴ Whether, however, his admiration for Plato was at any time extended to the latter's teachings is a more disputed point. The orthodox view is that he was always inclined to criticism and disagreement, and some scholars have maintained that he never properly understood the Platonic doctrine⁵ at all, and often took what was told him by subordinates like Speusippus and Xenocrates for gospel truth.⁶ On the other hand we have the view that he was for a long time in substantial agreement with Plato.⁷ We have the fragments of two dialogues written while he was still at the Academy—the *Eudemus*, a treatise on immortality dedicated

³ *Eth. Nic.*, IV, 8.

⁴ On this point *cf.* Zeller, *Aristotle*, I, pp. 9 ff.

⁵ This is the thesis of Robin's *Théorie Platonicienne des Idées et des Nombres d'après Aristote*.

⁶ *Cf.* Robin, *op. cit.*, pp. 450 ff.

⁷ This is a thesis of Jaeger's *Aristoteles*.

to the memory of a bosom-friend who fell fighting in Dion's expedition against Syracuse, and the *Protrepticus*, an address to Themistion, Prince of Cyprus, elucidating for his benefit the principles of philosophy and exhorting him to put them into practice in his rule; and these, it is argued, are thoroughly Platonic in tone.⁸ Far, too, from accepting the interpretations of fellow-students and lesser instructors as good Platonism, his first criticisms, we are told, were not directed against Plato but principally against what he considered misrepresentations on the part of the Academy, and particularly of Speusippus.⁹ And even when he had struck out for himself, the argument continues, he believed, for a while at least, that he was going in a direction indicated by his master and that he was following through rather than departing from the latter's real doctrine.¹⁰ We had best defer to these differences of opinion, but we are on reasonably sure ground in supposing that a young man of Aristotle's calibre must very early have had a mind of his own, whatever that mind was, and that he took little on faith and accepted so much of the Academy teaching as he did, critically and after due consideration, carefully weighing the *pros* and the *cons*.

When Plato died in 347 B. C., Aristotle was thirty-seven and had been associated with the Academy some nineteen years. By this time he was a very "old boy," fully conscious without doubt of his ability as a philosopher. It irked him, of course, to have the presidency of the Academy fall to a second-rate man like Speusippus, although this was only to be expected seeing that the latter was Plato's nephew and the legal heir to the property and plant. It probably irked him all the more if he thought that the nephew misunderstood and perverted the uncle's teaching. Also, Macedon and people with Macedonian affiliations were not popular at the moment in Attica, and it may be that he found life there uncomfortable. Various reasons, then, conspired to make him wish to leave Athens. And yet he had nowhere to go. Stagira, to which he would naturally have returned, was a heap of ruins, sacked and burned

⁸ Jaeger, *op. cit.*, pp. 34 ff., 51-52, 100 ff.

¹⁰ Jaeger, *op. cit.*, p. 179.

⁹ Jaeger, *op. cit.*, pp. 182 ff., 196 ff.

along with the other towns of the Chalcidic League upon whom the Macedonian peril, so long imminent, had burst at last when Philip, son of Amyntas, began to sweep aside the nearer obstacles to dominion of the world.

In these circumstances an invitation from a former school-mate, Hermeias, now lord of Assos and Atarneus in the Troad, came opportunely. Incidentally it included Xenocrates, who also was glad to avail himself of it, since apparently his nose, too, was out of joint at the turn things had taken in the Academy. Moreover, the visit not only afforded relief from a trying situation; in itself it promised much that was interesting. Hermeias was in some respects an expurgated and pleasant version of Dionysius I of Syracuse. Like his Sicilian "cousin" he was a self-made man of lowly origin who had come to the fore through a mixture of energy, intelligence, and determination, which was not always scrupulous in its methods. He had worked in a bank at the change counter, when a young man, just as Dionysius had worked in a government office as a clerk. He made money and invested it in the purchase of some small towns not far from Mt. Ida (somewhat to the east of modern Adalia). Here he established himself as overlord, and eventually, for a handsome consideration, got himself recognized by the Persian government as a "Prince." But he had become really interested in philosophy at the Academy,¹¹ and at the time of his invitation to Aristotle was much under the influence of two old Academicians, Erastus and Coriscus, from the neighboring town of Scepsis, who had been trying out Platonic theories in the legislation of their native city. In fact, he found their political advice so good that he had handed over to them his own town of Assos; and well he might, for he owed the success and extension of his little principality almost as much to the enlightened rule prescribed by them as to the force of his arms.

Aristotle and Xenocrates found these old fellow-pupils at Hermeias' side waiting to welcome them, very much as Plato had found Aristippus and Aeschines in Syracuse. But their pleasure at the reunion was, we may suppose, more genuine. In

¹¹ Cf., however, Jaeger, *op. cit.*, *loc. cit.*

any case they settled down quite happily at Assos, and here Aristotle spent the next three or four years. His nephew Calisthenes, later to come to a tragic end under charge of conspiring against Alexander, joined him, and he seems to have gathered about him the little group of disciples which was to expand into his Lyceum. To this period belong the dialogue *On Philosophy*, probably the earlier parts of the *Metaphysics*¹² and the *Politics*,¹³ and, if we grant its genuineness, the *Eudemian Ethics*.¹⁴ Some of his work on physics and allied subjects, indeed, he may have brought with him from Athens.¹⁵

While at Assos, Aristotle married a niece and adopted daughter of Hermeias. He was not the kind of man, we may imagine, to be averse to alliance with a princely house, however recent. But he seems also to have loved the lady for herself, though the story that he devoted his honeymoon to collecting sea-shells would seem to betray a certain absent-mindedness. By her he had one daughter, named Pythias after her mother. Soon after his marriage he left Assos for Mytilene, on the island of Lesbos, a city famous two centuries before, in the age of the culture-mad tyrants, as the seat of the brilliant court of the Penthelids and the home of the poetess Sappho, and still, in spite of rough handling by Athens, from whose empire it had been among the first to revolt at the outset of the Peloponnesian War, one of the richest and most powerful towns in Asia Minor. Why Aristotle went there we do not know, except that it was the home of his friend and pupil Theophrastus, to whom eventually he was to leave the presidency of his Lyceum. Moreover, it proved an excellent centre for biological research,¹⁶ in which he had always been deeply interested.

Meanwhile, a new and important episode in his life was pending. Apparently though out of sight of the Macedonian court these many years, he was not entirely out of mind. It may be that through his father's former position he was in some sort of touch. It may be that Philip, with whom he had very likely played as a small child, remembered him pleasantly,

¹² Cf. Ross, *Aristotle*, p. 8.

¹³ Cf. Jaeger, *op. cit.*, p. 302.

¹⁴ Cf. Jaeger, *op. cit.*, p. 268, note 1.

¹⁵ Cf. Jaeger, *op. cit.*, pp. 311 ff.

¹⁶ Cf. Ross, *op. cit.*, pp. 3-4.

and being a patron of art and science, and in a position to get the latest news from Athens, had noted his boyhood friend's brilliant career at the Academy.¹⁷ Or perhaps international politics was in part responsible. Philip was intensely ambitious socially. He wanted to get Macedon into the exclusive assemblage of the blue-blooded Greek states, and have her go about with the best people, a recognized Hellene among Hellenes. To climb and arrive the more quickly, he conceived the idea of stirring up and putting himself at the head of a great campaign against an undoubted outsider like Persia, and then posing as the champion and protector of Hellenism against the "barbarians." And a secret arrangement already existed between him and the Prince Hermeias to use Assos and Atarneus as an Asiatic bridgehead for the Macedonian armies in case of war. An unofficial ambassador was needed between the two rulers, and Aristotle, an old playmate of the one and the trusted friend of the other, may well have been *persona grata* to both.¹⁸ Be all that as it may, Philip was looking for a new tutor for his thirteen-year-old boy, Alexander, with whose education he was at the moment by no means satisfied, and offered the job to Aristotle, who accepted it.

The city to which Aristotle returned was quite different from the Pella of his childhood. In the interval it had grown into a respectable capital. Philip had improved and fortified it, and had permanently established there both his Treasury and his War Department. The streets must have bristled with smart officers and troops, for it not only housed the High Command but was the central barracks and training camp of the largest and most efficient army in the known world. Doubtless, too, it reflected the law and order that prevailed throughout the country since Philip had brought the insubordinate nobles to heel, and was not without evidence of the king's pretensions to Hellenic culture and of his eagerness to prove that Macedon was quite civilized and Greek. Incidentally, we may remark in passing that Philip's pure Hellenism fell short when he opened his mouth, and still shorter when it came to his matrimonial relations. He had an

¹⁷ Cf. Zeller, *op. cit.*, I, p. 21, note b. ¹⁸ Cf. Jaeger, *op. cit.*, p. 120.

Oriental leaning to a plurality of wives, and could never get his particles quite right when he spoke—the final test of a Greek to the manor born. Still, these little deviations did not prevent Pella from being a fine, upstanding new place. All in all, if in the old days it had been a ragged and muddy infant Washington, it was now quite a spick and span Berlin, and Aristotle must have felt somewhat as an old resident of Cleveland or Detroit might feel on returning to his native town to-day after a quarter of a century's absence.

His relations with the king seem always to have been cordial, and he soon had the affection and confidence of his pupil. He persuaded Philip to rebuild Stagira,¹⁹ and had frequent occasion to intercede with him, and later with Alexander, on behalf of Greek cities and individuals. He also made new and trusted friends, among them Antipater, destined to be European viceroy during Alexander's campaigns in Asia, and after the latter's death to be king of Macedon and Greece. But he also lost his old friend, Hermeias, in tragic circumstances. The Persians got wind of the agreement with Philip, invaded the principality, besieged Atarneus, and took the prince by treachery. He was sent up to Susa, the Persian capital, where an attempt was made to extort from him the terms of the secret treaty. On his refusal to reveal them, he was crucified. His last words were, "Tell my friends and companions I have done nothing unbecoming or unworthy of philosophy." Aristotle wrote the epitaph for a monument erected to his memory at Delphi, and dedicated a hymn to him.

This incident, doubtless, increased Aristotle's contempt for the "barbarians." But it also fanned the Greeks' dislike and suspicion of Macedon, certifying as it did to Philip's imperialistic designs. Relations were strained enough as things were. For the past ten years the great Athenian orator and statesman, Demosthenes, had been carrying on a violent anti-Macedonian campaign, haranguing his fellow-countrymen upon the growing peril in the north, and taking them to task for their unwillingness to abandon the lazy, luxurious, pacifistic ways

¹⁹ Cf. Zeller, *op. cit.*, I, p. 24, note 1. Jaeger, however, *op. cit.*, p. 124, thinks Stagira was rebuilt by Alexander.

into which they had fallen, and to make the disagreeable military effort necessary to meet the situation. And slowly but surely all his prophecies were coming true, as the encroaching tide crept down upon them. In 348, to be sure, Philip's attack upon the Chalcidic League had roused Athens to a half-hearted war, which was soon patched up because the Athenians were indolent and glad to escape with whole skins and Philip for the moment had his eye on other game. What that game was, was soon clear. Within two years he had wedged his way through Thermopylae and entered Delphi. There was nothing to do now but receive him into the pan-Hellenic religious assembly, the Amphictyonic council, and placate him still further by asking him to be a president of the Pythian games—invitations hitherto sent to none but *bona fide* Greeks. He had got Macedon into Hellenic society at last, for all his many wives, his misplaced particles, and the gibes of Demosthenes. The latter, however, never remitted his efforts or swerved from his policy of calling upon the Greek states to unite and withstand the northern barbarians. And he carried his anti-Macedonianism so far as to propose that the ancient enemy, the "barbarian" Persians, should be induced to join the coalition.

Now that the Hermeias affair had exposed Philip's nefarious designs upon them as well as upon Hellas, Demosthenes looked to them for prompt action and the fulfilment of his hopes. But he looked in vain. After disposing of Hermeias, Persia made no further move. Nor could Greece be stirred into independent action. Philip came on relentlessly. He seized and annexed Thessaly, and, taking advantage of the perennial hates and quarrels of the Greek states among themselves, backed the lesser Peloponnesian cities against Sparta and thus secured a foothold in the southern peninsula. Athens was as good as encircled, and her back was to the wall.

Meanwhile Aristotle was in Pella or thereabouts tutoring his charge. To scratch a Macedonian was to find a "barbarian," and the more un-Greek elements in his high-strung and high-handed pupil—Alexander's capricious and passionate temperament, and his strain of brutality and cruelty—he could not change or more than partly discipline. But he

tried to overlay and control them, so far as he could, with Hellenic ideals of self-control and moderation and reasonableness, teaching him history and statescraft, imbuing him with scientific curiosity and a love of knowledge, and seeking to build up within him a reflective and detached vision of himself and of the world. And Alexander's passions and ambitions he endeavored to sublimate in hero-worship and aspiration towards the excellence of many-sided self-realization. The task was all the easier, as the boy's mother, Olympias, born a princess of Epirus, claimed descent from Achilles, and was forever reminding her son that the blood of Homeric kings flowed in his veins, and holding up before him the example and inspiration of his great ancestor. In this she was seconded by Alexander's earlier tutors, so that he came under Aristotle's influence already impressed with an "Achilles-complex." He knew the *Iliad* by heart, and in later years carried a copy with him in all his campaigns. And after he had become king, and was marching upon Asia, he saw himself as a second Achilles and his campaign as another Trojan War.

The extent, however, to which Aristotle succeeded in really influencing Alexander is a disputed point. The young king seems in the beginning to have regarded the hero's sword as an instrument not merely for conquest, but also for the dissemination of Hellenic culture among the barbarians, and in this ideal of himself as the bearer of Western civilization to "inferior" races it is maintained that Aristotle's hand can be clearly seen.²⁰ But it has also been argued that the philosopher's influence was never very great.²¹ Certainly it was not enduring, for Alexander was soon to rise to the higher and wider vision of a fusing of Greek and Oriental civilization that should transcend the distinction, so vital to Aristotle, between barbarian and Hellene—a vision prophetic of the cosmopolitanism of the Hellenistic and Roman worlds, and remotely foreshadowing the Stoic and Christian doctrine of the brotherhood of man. And as time went on, we shall soon see, the personal relations between the old pupil and his former teacher became uncomfortably strained.

²⁰ Cf. Jaeger, *op. cit.*, pp. 121 ff.

²¹ Taylor, *op. cit.*, p. 8.

There is a similar difference of opinion with regard to the reverse influence exercised upon Aristotle by the growth of the Macedonian kingdom. On the one hand, we are told that the march of contemporary events never budged him from believing the small compact city-state to be the only good form of government, and that Philip and Alexander might as well have never existed so far as his political theory was concerned.²² But we are also assured to the contrary that Aristotle was flexible and open-minded, that he learned much about the advantages of beneficent tyranny from his association with Hermeias, and was fully alive to the dangers, as for example the disunion and weakness of Greece, attendant upon the city-state type of political unit. The result was, according to this view, that while he still urged smallness and compactness and a quasi-Platonic constitution upon the Greek commonwealths, he also saw the necessities and possibilities of a larger political unit, the kingdom, of which the city-states might be the components. And for the constitution and rule of this new form of government, which he was quite aware was materializing before his eyes, he had quite different ideas. In fact, his dream was truly imperial. The whole Greek world, with Macedon as its core, was to form a single state submitted to a single head. This head was to be a veritable "All-Highest," transcending constitutional limitations and reigning by the grace and force of an inborn kingly nature and personality. For this rôle, we are told, of autocrat of a Greek Empire and vicegerent of Hellenism on earth he cast and trained Alexander. And as the Asiatic adventure expanded into universal conquest, he really pinned his hopes on the political and moral domination of the world by Greek arms and Greek ideals.²³

If this be true, Aristotle's provincialism lay not so much in a failure to rise above a multitude of petty city-states to the concept of a pan-Hellenic monarchy, as in an inability to take the last step with Alexander and to see that monarchy in its turn as a component in a still wider federation and fusion of peoples and cultures. This step, however, was well-nigh impossible to anyone born and bred in the old-fashioned Greek

²² Cf. Taylor, *op. cit.*, *loc. cit.*

²³ Jaeger, *op. cit.*, *loc. cit.*

tradition of disdain and dislike for everything that was "barbarian," that is to say, non-Greek. The distinction, we are told, meant almost as much as the "color-line" does in the southern United States to-day.²⁴ It certainly meant as much as, if not more than the line the insular Englishman or the "one hundred per cent" American draws between himself and the rest of the world. Aristotle was deep-dyed in the prejudice, and Alexander's later cosmopolitanism did not soften, but only helped embitter it.

Whether Aristotle held his job and remained at court till the actual accession of Alexander is doubtful. Athens, with her back to the wall, was rallying to her support the rest of Greece, now thoroughly alarmed and disillusioned, and had succeeded even in detaching Byzantium and Perinthus, an important town on the Sea of Marmora, from their alliance with Philip. And Athenian troops had crossed over to the island of Euboea, and sent the pro-Macedonian elements there packing. Open war was now inevitable. Philip laid siege to Perinthus with all the newest wrinkles in battering rams, catapults, and storming towers, and then to Byzantium. In his absence, he made Alexander regent—a position that can have left little time for lessons, and rendered Aristotle's presence superfluous.

Moreover, Philip had his hands full for some time to come. The Athenians, seeing their lines of communication with their food supplies in the Black Sea threatened, began open hostilities, and sent a fleet which raised the siege and forced Philip to retire into Thrace. And in the south the allies carried the war into Thessaly. For the moment, too, the king's hands were tied by a threatened invasion of barbarian tribes from the north, and he was forced to forego an immediate revenge and leave the Athenian war to its own devices, while he dealt with this new danger. So there can have been no let-up in Alexander's new duties, which apparently he only relinquished to accompany his father in the field when Philip at last resumed the campaign against Greece.

When that time came, the king moved rapidly south, and was

²⁴ Taylor, *op. cit.*, p. 11.

suddenly in Boeotia threatening an immediate advance upon Athens. The Allies, reinforced by Thebes, confronted him at Chaeronea (339 B. C.), only to be overwhelmingly defeated. There the eighteen-year-old Alexander, in command of one wing of the Macedonian army, received his baptism of blood. Nor were his first adversaries unworthy of him. Opposed to him were the Theban forces, including the famous Sacred Band, not one of whom, so the story runs, was left alive, and whose mute courage as they lay dead upon the field of honor moved even Philip to tears and praise.

Aristotle, meantime, was watching the end either from Pella, or, if he had severed his connection with the court at the time Alexander was made regent, from his native town of Stagira. He had not long to wait. All Greece was now at Philip's mercy. But the king in the hour of victory showed a wise and unexpected moderation. Athens, having prepared for a last, desperate stand and a long siege, was offered and accepted honorable terms of surrender, which left her still an autonomous, though a vassal state. And the next year, at the Congress of Corinth, a similar leniency was extended to the rest of Greece. Philip was to be overlord and generalissimo of the confederate forces, but each city was left free to manage its own internal affairs. Macedonian garrisons, however, were stationed at Thebes, Corinth, Chalcis, and other strategic points.

By this time Alexander was already immersed in military life, and a general at that, and Aristotle may well have felt that his job was finished. In any case, Philip's sudden and violent death left him not the slightest doubt. The king, having become enamored of the daughter of one of his high officers, took it into his head to divorce his chief wife, Alexander's mother, and to marry and promote his new love in her stead. The court of course was in a twitter, and Alexander not unnaturally flew into one of his rages. At the wedding breakfast he figured in a disgraceful scene in which he threw a cup at the head of the bride's very intoxicated uncle, who had expressed an indiscreet wish that the new queen might produce a proper heir to the throne, and then he had grossly insulted the equally drunken bridegroom who had fallen on the floor—be-

tween two beds, as Alexander remarked—trying to intervene. After the wedding he went off in a huff with his mother to Epirus, and Philip had considerable difficulty in getting him to return. Certain friends of the deposed queen, however, were more deadly if less demonstrative in their anger. A conspiracy was formed, to which Olympias was supposed by most, and even Alexander by some, to be privy. A willing tool was found who already had a grudge against the king, and at an opportune moment, at the wedding of one of his daughters, Philip was assassinated (336 B. C.). Alexander was now king of Macedon, and Aristotle's task was definitely at an end.

For a moment Greece was uncertain what kind of boy this Alexander might be, and there was an ominous stir among the vassal states. But she learned in short order, for in no time Alexander was on the spot, backed by thirty thousand men. The cities could not be too quick in recognizing his succession to Philip's overlordship, and in six months all was quiet again. A rumor of his death some months later, and history repeated itself; except that this time Thebes, which had gone so far as open revolt, was razed to the ground and her inhabitants were sold into slavery. With this salutary example before their eyes, the Greek cities could be considered pacified, and Alexander went home to plan his Iliad against the Persians.

Aristotle was now probably at Stagira, which Philip had rebuilt at his behest. But for some time he must have been meditating a return to Athens. It was by all odds the most congenial place for literary and scientific work, and it was full of old memories and old friends. So long as the war was on, and in the uncertain time that followed Philip's death, it would have been unwise to go back. But now things were well in hand again and seemed likely to remain so. Alexander, to be sure, was off for Asia, lured by the shade of Achilles and the fascination of a new, unknown world to conquer, not to speak of the prospect of loot, but he was leaving Antipater behind with a full third of the Macedonian army, some twelve thousand infantry and fifteen hundred horse, to keep an eye on home affairs. Apart from his friendship with the viceroy, Macedon had no claim on Aristotle and no interest for him,

now that the young king was gone. Stagira doubtless seemed all the more tame and provincial for its newness. Then, too, he found the climate too harsh. There was everything for, nothing against his going back.

The spring of 334 B. C.—the same spring that Alexander crossed from Europe into Asia—found Aristotle once more in Athens. He had been away thirteen years, and in his absence there had been at least one change that made him feel something of a fish out of water. Five years before, Speusippus had died of a paralytic stroke, and Xenocrates had been elected president of the Academy. That in a sense closed its doors to Aristotle. However cordial his relations with Xenocrates, and however friendly his feelings for the School might be, a man of his eminence and high connections, the intimate friend and counsellor of the king, hand in glove with the viceroy Antipater, and already perhaps the most renowned philosopher and teacher of the day, could scarcely associate himself with his old university in a subordinate position. Furthermore, by now he had a system of his own to develop and expound. Then, too, he had a thousand irons of scientific research on every conceivable subject in the fire, and perhaps large collections of the most varied data were already accumulating on his hands. To house and diffuse his universal knowledge and make public the conclusions he drew from it, nothing short of a school of his own would suffice.

This, like the Academy, developed from small beginnings. We first find him gathering his followers about him in a park and exercising ground in the north-eastern suburbs, dedicated to the Muses and Apollo Lyceus. This spot, known as the Lyceum, had formerly been a favorite haunt of Socrates, and here, under the trees, with Mt. Lycabettus towering above them, Aristotle and his pupils paced up and down, while he expounded his views and answered their questions. From this habit his school was nicknamed Peripatetic, or “walking-about”—a tag that stuck to it and became an official designation of the Aristotelian system. And just as our word “academy” owes its origin to Hecademus Park where Plato began to teach, so Apollo’s title, which is variously interpreted

as "Lycian-born," "wolf-slayer," or "enlightener," has given us the term "lyceum."

The morning talks were devoted to philosophy and the more technical and difficult aspects of the sciences, and were intended primarily for the members of his school. But in the afternoon he held classes in rhetoric and oratory which were attended by such large numbers that he had to abandon his habit of walking about, and to lecture sitting down. We can see him there under the trees or the colonnades, just as we saw Socrates there eighty years before—a man just turning fifty, already bald, pot-bellied too, one unkind description says, thin of leg, small-eyed, extremely and even ostentatiously well dressed, with a mocking and sarcastic way of speech, and still with his boyhood lisp. His manner, if he in any way lived up to his professed ideal of the distinguished man, must also have been somewhat self-conscious and pompous. Altogether, we may suspect him of having been something of a dandy, a wit, and a snob.

The instruction given by Aristotle was but a fraction of his work. Into the next twelve years he crowded almost all of his extant writings and many lost ones—in itself a prodigious output for the short length of time. Nor was this all. His writings were the outcome of a profound and minute study of an overwhelming mass of data drawn from every conceivable field of contemporary scientific research. Mathematics, physics, astronomy, biology, physiology, anatomy, botany, natural history, psychology, politics, ethics, logic, rhetoric, art, theology—all were grist to his mill. Nothing escaped his eye or his ear, and everything he saw or heard of he investigated, from the philandering of elephants to the nature of God and the constitutions of one hundred and thirty-eight Greek cities. Never before or after has there been a human intellect that compassed at first hand and digested the whole body of existing knowledge, or one that held so vast a variety of fact in a single perspective. And, quite apart from the range and grasp of fact upon which it rests, this perspective still ranks in itself after the test of twenty-two hundred years as one of the supreme achievements of the mind of man.

Although Aristotle was comparatively rich, his private means could never have sufficed for the expense of his investigations and collections. His researches, while he was in Macedonia, had been largely financed by Philip, and later Alexander came to his aid, and is said, probably with some exaggeration, to have contributed some eight hundred talents, or between one and two million dollars gold, with of course a far larger purchasing power than the sum would have to-day. The king, we are told, also placed at his disposal all the fish and game and forest wardens of the kingdom, with orders that anything new or interesting should be reported to him. But if this is true, the eyes on the lookout in Asia were apparently so agog at elephants and other sizable wonders that they left Aristotle blind to a host of lesser novelties.

His growing school, his collections, his maps and his instruments needed housing also. As a foreigner he was forbidden by Athenian law to own land in the city. But at a later date, under a new régime, we find his successor, Theophrastus, also an alien, confirmed in the possession of ground and buildings adjoining the exercising field. These, or at any rate the land, we may assume, had been rented by Aristotle and developed as the need arose. In Theophrastus' time, for example, we find mention of a colonnade devoted to a display of maps, a college chapel dedicated to the Muses, and several houses. Also, there must have been a library. Then, too, student life at the Lyceum was modelled upon that at the Academy. There was something in the nature of a commons, for which Aristotle himself drew up the rules, where the pupils dined together and held symposia, or convivial meetings devoted to good drink and philosophic converse. Residential halls seem also to have sprung up, and later we hear a complaint, also once levelled against the so-called "Gold Coast" at Harvard, that these halls had become too luxurious and too expensive for any except the rich students. Like Plato, Aristotle found it necessary to have assistants, among whom we may note Theophrastus and Eudemus of Rhodes—not to be confused with the friend of Aristotle's youth—to whom the "*Eudemian*" *Ethics* is attributed by many critics. And again, like Plato,

he drew not so much upon Athens itself as upon the outside Greek-speaking world for the majority of his pupils.

Under the leadership and inspiration of so towering a personality the Lyceum quickly overshadowed its rival university. Many people attended lectures at both institutions. Some jealousy there must have been, but Aristotle seems to have kept on pleasant and friendly terms with the Academy leaders. At the same time he had his enemies. Athens, for all her pacification, and although her head—her intelligentsia—was reconciled to the new order, was still anti-Macedonian at heart. And anyone so near the throne of the conqueror as Aristotle, and so identified with Macedon, could scarcely have escaped suspicion and dislike in many quarters. In the eyes of the irreconcilable Demosthenes and other extremists he probably figured as a Macedonian spy, and his letters to his old friend Antipater, with whom he kept up a correspondence, as so many secret intelligence reports. But Aristotle managed the situation with great tact. We hear nothing of any unpleasantness with Demosthenes, and the character and the learning of the leaders of the new school were such as to command respect from all parties.

Although, then, the next twelve years were to be inwardly a period of intense intellectual effort and incredible productivity, outwardly they were to pass on the whole quietly. But they were not entirely placid and unchequered by sad or trying incidents. It would seem to be some time after his arrival in Athens that his wife, to whom he was devoted, died, leaving him with his young daughter on his hands. He had also adopted the orphaned son of his former guardian, Proxenus, out of gratitude for the kindness and care he had received in his boyhood. Shortly after the death of Pythias, he became attached to a lady from Stagira named Herpyllis, whom, however, he never legally married. Their union was in all respects happy, and by her he had a son of his late middle-age, named Nicomachus after his grandfather. The boy later became something of a philosopher himself, and edited the notes of one of his father's lecture-courses—now known to us as the *Nicomachean Ethics*.

Aristotle's life at Athens was also clouded by the growing coolness between himself and Alexander. Various causes contributed to the estrangement. In the first place the king was proving more and more rebellious to the strictly Greek ideals that his tutor had done his best to instil, and showed a lamentable tendency to break down the barriers and leap the gulf that in Aristotle's opinion naturally separated "God's own" superior Hellenic principles, institutions, and ways of living from those of everybody else. For Alexander, however sincere he may have been at first in his rôle of great Achilles fighting an inferior and alien Troy, had barely landed and sacrificed patriotically to the shade of his crusading ancestor, before he began to find that Troy, too, had its amenities, its virtues, even, treasonable thought though it was in a good Hellene, its superiorities. He succumbed to the effete East as now and then an American or a Britisher grows weak-kneed before the decadent charms of Continental Europe. He no longer regarded the peoples whom he subdued as naturally inferiors and slaves. His eyes were opening on a richer, wider, more interesting world that it took all sorts of men besides the Greeks to make. The old Aristotelian ideal of pan-Hellenism and of Greek culture with its foot upon the barbarian neck was giving way before the dream of a fusion of barbarian and Hellene on equal terms in a new, Alexandrian civilization. Of this subtle, inward, and invisible change of mind and heart the transference of the capital, even temporarily, from Pella to Babylon was the outward and visible sign.

Aristotle could have no sympathy with the vision breaking before his former pupil. It was nothing but miscegenation to him, of the rankest sort. Alexander had gone back upon the teaching instilled into him at such pains. He had failed to keep the Hellenic faith pure and to uphold the prestige and the supremacy of the Greek race. He had laid down the "white man's burden" and "gone native." It was disappointing and deplorable.

Equally disquieting were the reports of the king's behavior. He had married one Bactrian and two Persian princesses, and it looked as if Macedon and Greece would fall eventually to a

half-bred, Eurasian heir. That he sought to establish his invalided or retired Macedonian soldiery in new cities of his founding was, after all, compatible with the Greek idea of colonization, but he had done everything possible to persuade and even bribe both officers and privates to take Asiatic wives. Persians had been nominated to positions of honor and responsibility, both civil and military, and he had supplemented and to some extent substituted his Macedonian veterans with a corps of Asiatic youth, the so-called Epigoni, whom he treated not as "native-troops" but as the social equals of his European soldiery. His own manner of life, also, was becoming orientalized. On his shoulders had fallen the mantle of Persian royalty; he was now Great King, as well as king of Macedon, and he took his new part seriously and played it with zest. He assumed the imperial purple and the tiara of the fallen Darius, and surrounded himself with the pomp, the splendor, and the luxury of an Oriental court. Even when on the march, his camp had all the state and retinue of a royal residence, such as secretaries, pages, chamberlains, gentlemen—and ladies—in waiting, and an elaborate etiquette. Every night there was a formal dinner to which fifty guests or so had the honor of the king's command. And these dinners were only too apt to end *à la Macédoine* in an uproarious drinking bout.

To cap the climax and add positive insult to the injury already done true Hellenism, Alexander desired his courtiers when they entered the Presence, not only to do him homage with a gesture, the blowing of a kiss, associated in the Hellenic mind with the worship of the Gods alone, but at the same time to prostrate themselves before him—an act most repugnant to the self-respect and dignity of the Greeks, who prayed even to their Gods standing and looking them in the eye.²⁵ The reason for his insistence was even more shocking. It was not only that Persian court regulations had prescribed the ceremony for those presented to the Great King, but also that owing to the fulsome praises of the oracle of Ammon in Egypt he had really come to believe himself to be the son of Zeus and divine. And not only was he arrogating divinity and worship

²⁵ Cf. *Journal of Hellenic Studies*, Vol. XLVII, Part I, 1927, pp. 53 ff.

to himself, but he had gone so far as to inquire of the oracle whether his bosom-friend, Hephaestion, who had played Patroclus to his Achilles, and who had died in Persia, might not also be honored as a God. We may note that this hedging of a king with divinity became a commonplace of the Hellenic and Roman worlds, and persists to-day in the "divine right" by which some monarchs still rule—at least on coins and postage stamps. Accounts of these doings, as they reached Athens, must have been so many nails in the coffin of Aristotle's hopes. He may well have been disapproving and discouraged.

Alexander, on his part, was beginning to be out of conceit with his old teacher. Very likely he was conscious of Aristotle's disapprobation, and was irritated by it. But, what was far more serious, the philosopher was intimate with Antipater, and Antipater was falling out of favor. He and the Queen-Mother, Olympias, were at swords' points and bombarded Alexander with complaints of each other's conduct. So long as Hephaestion was alive, the viceroy had had an all-powerful friend at court to stand up for him, but since the favorite's death the dowager Queen, who had always had great influence with her son, was in the ascendant. Moreover, treachery was the bane of Alexander's life, and he had already good cause to be suspicious of many of his officials. Antipater, for all his staunch loyalty, was too distant, too out of hand, too able to knife his master in the back if he had wanted. True, Alexander had two of his sons as hostages, but that was not enough to prevent or dispel distrust. And Aristotle's intimacy with Antipater put him, also, upon the doubtful list.

This chronic disaffection on both sides was soon brought to a head. Aristotle's nephew, Callisthenes, had accompanied Alexander, upon his uncle's recommendation, as historian of the expedition. He seems to have been an austere, unbending, and wholly worthy young man, with a very good opinion of himself, and no tact, geniality, or sense of humor. He was not a good mixer or drinker, and, as so often happens, cloaked his inferiority complex with a superior attitude of glum and scornful disapproval towards the conviviality in which neither his heart nor his head permitted him to join. Naturally, he

was pretty much of a wet blanket at the royal parties. Alexander's assumption of Oriental manners and customs he could not abide, and to the king's taste for flattery he declined to pander. As for impieties and indignities like the blowing of the kiss and prostration before the Presence, he flatly refused to be a party to them, and he protested publicly against them and against the king's pretensions to divinity in a quite blunt and tactless though, it must be said, forceful and courageous way. Alexander was furious, but he dared not take peremptory measures, knowing as he did that Callisthenes voiced the real feelings of a large party at court. He nursed his grudge, however, and bided his time, which came with the discovery of a plot against his life involving some of the royal pages. Callisthenes, who was innocent of any connection with the affair, was accused of having contributed to it by the example of his disrespectful attitude and unrestrained language, and was promptly put to the torture and hanged. In the heat of the moment, Alexander flared up against uncle as well as nephew. He wrote a violent letter to Antipater in which he insinuated that Aristotle was responsible for Callisthenes' behavior and was generally giving comfort to the king's enemies in Athens, and threatened to get even with him yet. Fortunately, however, he was too taken up with his projected expedition into India to do more than threaten. But we may guess the effect upon Aristotle of the outrage done his kinsman, and of the unjust and irrational suspicion of himself. And his uneasiness, his depression, and his anger were probably not soothed by the fact that his stomach had been bothering him of late.

Meantime the Fates sat spinning and held the shears ready for the two lives they had so closely interwoven. There was one point in which Alexander might have more completely orientalized himself to his own advantage, and with Aristotle's approval. He might have drunk less. For although Plutarch tells us that he was continent in all things of the body, "no greedy-gut, but temperate in eating," and "was thought to be a greater bibber than he was,"²⁶ drink that was moderate and reasonable enough in Macedon might prove excessive in the

²⁶ *Alexander*; North's translation.

tropical climate to which he was now subjected. His constitution was tried enough already by overwork, and in the spring of 323, after his return from India, he came down with a fever caught while overseeing improvements to the channel of the lower Euphrates. He returned to Babylon a sick man, but persisted in living at his usual high pressure.

Curiously enough, though, it was his beloved and extravagantly lamented Hephaestion who was his undoing. The oracle of Ammon, apparently averse to setting a precedent for unlimited deification at the king's caprice, and yet discreetly desirous of rendering to Caesar as well as to God, had replied, after a long delay, that though the dead favorite was not entitled to full divine rank and worship, he might be honored as a demi-god or hero. On receipt of the message Alexander proceeded to celebrate with great pomp the long deferred obsequies of his friend. Intoxication was in those days, as it still is in some places with us, a common form of showing respect to the departed, and, down with malaria though he was, he devoted two successive nights of drunkenness to honoring Hephaestion's memory. The result was that within a fortnight he himself was dead. He was not quite thirty-three and had reigned nearly thirteen years. On his deathbed he gave his signet ring to the senior officer of his household, Perdiccas, and left his empire, characteristically, "to the strongest." Although there seems to be no doubt that his death was due to natural causes, it was not long before slanderous tongues began to whisper that he had been poisoned by Antipater's sons, at the behest of Antipater and Aristotle.

Thanks to the energetic measures of Perdiccas, supported by the cavalry regiments, the empire was not immediately shaken to pieces by the shock of Alexander's death. The Bactrian wife, Roxana, was pregnant, and the bulk of the army remained loyal to the unborn heir. The infantry, to be sure, put forward an illegitimate and half-witted brother of the late king as a candidate for the throne, but his pretensions were promptly squashed. Perdiccas became regent of the empire, and under him the high officers divided up and took over the rule of the different provinces. Antipater was confirmed in

his viceroyalty of Macedon and Greece. But he had no easy task on his hands. All Greece was in an uproar at the news that Alexander was no more. Athens under Demosthenes sounded the call to liberty, and marshalled ally after ally to the cause. So sudden was the uprising that it caught Antipater unprepared, and it took over a year of hard-fought war to get the situation under control again.

Very early in the game Aristotle had found himself obliged to leave Athens. Feeling had run particularly high there, and anyone of known Macedonian sympathies or affiliations was in danger of his life. The philosopher, in spite of his detachment from politics and his quiet and inoffensive life, could not but be an immediate target. In the absence of any evidence against him, his enemies proceeded to make the never-failing appeal to the religious intolerance of the Athenians—the blind spot in their intelligence, just as bigotry in sociology and ethics is the blind spot in ours. The hymn he had written in memory of Hermeias was dug up and interpreted as a deification of his friend. Upon this and the assertion that Aristotle had also offered sacrifices to the martyred prince his accusers based a charge of offense against the established religion—a charge that inflamed much the same passions and prejudices in the conservative bosom then as the charge of questioning the established political, moral, or economic order inflames in it to-day.

Mindful of the fate of Socrates, and not wishing, as he said, “to give the Athenians a second chance of sinning against philosophy,” Aristotle decided to get away from Athens before it was too late. He left Theophrastus in charge of the Lyceum, and retired to a safe distance at Chalcis, where he owned a country-house inherited perhaps from his mother. But though he had escaped death at the hands of the Athenians, it lay close in wait for him. The stomach trouble that had been bothering him for some time had steadily grown worse. The wonder was, we are told, not that he did not live to be older, but that he lived as long as he did. For a year he lingered, bearing his illness bravely. In the summer of 322 B. C., a little more than a year after Alexander’s death, and just as the

Greek revolt was finally collapsing and Athens was about to surrender unconditionally to Antipater, he died.

A few months later, Demosthenes, too, came to an untimely end. A price was set on his head, and a proscribed and hunted man, he fled from Athens and took sanctuary in the temple of Poseidon on the island of Calauria. Here he was tracked down by Antipater's agents, and rather than fall into their hands he killed himself by taking poison. Thus, almost with a single gesture, the stage was swept clear of three of its greatest characters, and three of the great figures of all time.

Aristotle's somewhat dandified and seemingly affected appearance and manner clothed not only a gigantic intellect but a very human and kindly heart. The brief will he made in Chalcis that last year is no less a monument to the one than the volumes of lecture notes that have come down to us as his works are to the other. As executor he named Antipater, and made other friends, with the special request that Theophrastus should serve, the guardians of his children and trustees both of his own estate and of the properties he himself had held in trust. He provided for the marriage of his daughter to his foster-son Nicanor or to Theophrastus, if possible, and confided to whichever married her the care of Herpyllis as well, and of the little Nicomachus, bidding him cherish the boy as a father and a brother would. To Herpyllis, remembering how good she had been to him, he wished a happy marriage, and left her money, certain slaves, and either a house on the farm at Chalcis, or the town-house in Stagira, as she chose, with suitable furniture and appointments. His other slaves were to be kindly treated and in many cases freed. The trustees were also told to erect memorials to his mother and to the foster-parents who had taken him in as an orphan, and Nicanor was enjoined to make certain votive offerings vowed by Aristotle in case his adopted son returned safely from the wars. And wherever he was buried, the bones of his dead wife Pythias were to be laid beside him, according to her last wish. His manuscripts and his library were already in the possession of Theophrastus.

II

The death of Theophrastus some thirty-five years later abandoned Aristotle's works to an adventurous career.²⁷ Left, along with Theophrastus' own writings and other books, to a friend and pupil named Neleus, they were carried away by him from Athens to his home at Scepsis in the Troad. Soon afterwards the town came under the dominion of the recently established kingdom of Pergamus, whose monarchs in their eagerness to enrich the royal library were requisitioning their subjects' books. Neleus' heirs, to whom his collection had been bequeathed, promptly hid it in a cellar to prevent its seizure, and there it lay for nearly a hundred and fifty years, a prey to worms and damp. Unearthed at length, when the death of the last king of Pergamus in 133 B. C. and the bequest of his kingdom to Rome had put an end to the predatory tendencies of the royal library, it was sold by its owners to a rich Peripatetic at Athens, one Apellico of Teos. Thus the original texts became accessible once more to scholars, and served to round out a knowledge hitherto dependent upon copies, and these perhaps only of a portion, and, it may be, not the most important portion, of the Aristotelian writings.²⁸ The manuscripts, however, were terribly mildewed and wormeaten, and in a state of great disorder. Apellico did what he could to edit them, rearranging the pages, filling in the worm holes, piecing out the torn sheets, and re-writing what had become illegible to the best of his conjecture. But as he was not much of a philosopher most of his conjectures turned out to be very incorrect, and his publication was full of mistakes. Moreover, it was difficult to know just what was Aristotle, and what Theophrastus.

In any case, the newly discovered library was not destined to remain open to Athenian inspection long. Athens had been playing fast and loose with Rome, and had finally been inveigled by Mithridates the Great of Pontus, the chief enemy of the Republic at that time, to make common cause with him in

²⁷ For a detailed account *cf.* Grote, *Aristotle*, I, pp. 50-57; Zeller, *op. cit.*, I, pp. 137-139.

²⁸ On this point *cf.* Grote, *Aristotle*, I, p. 57; Zeller, *op. cit.*, I, pp. 139 ff.

his campaign against her. The result was disastrous. Greece was overrun by Sulla, Athens was taken and looted, and Apellico's library was carried off to Rome as part of the conqueror's share of the spoils. There it was kept in charge of a custodian, somewhat difficult of access, but still open to scholars, among them Andronicus of Rhodes. The latter reclassified and re-corrected the Aristotelian manuscripts, though it had become by this time impossible to recover with any accuracy much of the original meaning. His publication aroused a new interest in the great "master of those who know," giving Roman philosophers, as it did, a systematic and practically complete edition of the text and perhaps their first introduction to some of the more important writings. Some critics, indeed, have maintained that many of the more profound treatises were actually lost to the world for the century and a half that the manuscripts lay rotting in the cellar of Neleus' descendants.²⁹ But this is rejected by others who hold that copies of most of the philosopher's writings were extant during the interval, not only in the Alexandrian Library, but elsewhere.³⁰ In any case the service done by Andronicus cannot be too highly estimated, and it is largely from his edition that such works of Aristotle as we now possess have come down to us.

The scholars of antiquity, however, whether through his edition or otherwise, were in possession of many writings now lost. These included some nineteen popular treatises, most of them dialogues modelled upon Plato's, as well as poems, letters, and essays. Again, ancient criticism rejected as spurious or suspicious some things that modern commentators regard as genuine, and accepted as Aristotelian some things that we to-day reject. To give in detail the list of the extant works generally considered authentic would be unnecessarily laborious, but we may mention some of the more important and more widely known. On the subject of logic there are the *Categories*, the *De Interpretatione*, the *Topics*, the *De Sophisticis Elenchis*, and the *Prior* and *Posterior Analytics*, which taken together form the *Organon*. In the field of the physical

²⁹ Cf. Grote, *op. cit.*, *loc. cit.*

³⁰ Zeller, *op. cit.*, *loc. cit.*

sciences we have the *Physics*, the *De Caelo*, the *De Generatione et Corruptione*, and the *Meteorologica*. Dealing with what we should to-day call psychology, physiology, and biology we have the *De Anima*, the collection of treatises known as the *Parva Naturalia*, the *Historia Animalium*, and other works in natural history. Then we have the *Metaphysics*, the *Nicomachean* and the *Eudemian Ethics*,³¹ the *Politics*, the *Rhetoric*, the *Poetics*, and finally the chapter from the *Constitutions* on the *Constitution of Athens*, lately recovered³² from an Egyptian papyrus.³³

³¹ The modern tendency seems to be in favor of the genuineness of the *Eudemian Ethics*.

³² In 1890.

³³ This list follows Ross, *Aristotle*, pp. 7 ff.

CHAPTER II

DEVELOPMENT OF ARISTOTLE'S METAPHYSICAL THEORY

I

THE Aristotelian philosophy, like the Platonic, was not brought into the world in a basket by a stork, and full-grown at that. It had its period of pre-natal development, embodied a continuous evolution of thought, and never reached a point at which the process of revision and enlargement altogether ceased. In other words, Aristotle stopped thinking only when he died. This fact is apt to be obscured by the tendency of historians of philosophy to minimize the occurrence of growth in philosophic systems and to treat them for the most part as if they sprang from their author's brains, like Athene from the head of Zeus, mature and fully armed. Thus in Aristotle's case we might gather that his first and immediate reaction to Plato's teaching was one of complete disagreement, that his final criticisms were formulated all at once, and that upon them his philosophy arose with little or no deviation from an original plan. At least, his works are frequently taken as if they had no history, were all contemporaneous in spirit, and were each a consistent whole, written at a single stroke of the pen and expressive throughout of a uniform ripeness of judgment.

This method, it must be said, has its advantages. It enables us to deal with a thinker subject by subject, and to give an account of his psychology, or ethics, or metaphysics as if the factor of time did not exist. Moreover, Aristotle lends himself more readily than Plato to such treatment. His thought is more sober, more coherent, and more conclusive. With respect to him there could never arise, as there has arisen in

Plato's case, the question whether violent alterations did not take place even in his more mature system. The growth of his philosophy was not subject to quick variation. Still, as modern critics are beginning to insist, there was an evolution, which has left what the biologists would call marked vestigial structures, easily recognizable if only we are on the lookout for them. And from these traces the stages through which Aristotle's thought passed can be reconstructed with some accuracy.

For example, we are warned not to draw our picture from the extant works alone but to include in it so much as we know of the dialogues. Nor can we take many of the more important writings as unitary compositions reflecting throughout one and the same opinion upon the subjects with which they deal. We must rather regard them as compilations in which earlier or later views were indiscriminately mixed at the hands of those who arranged his notes. And once so regarded, they show that Aristotle changed his mind little by little in ethics, politics, psychology, physics, and metaphysics, as his system developed. They indicate, furthermore, that this change was on the whole a movement away from Plato, from the supernatural, from causes and sanctions that dwell on high, towards a scientific realism and naturalism.¹ As this is the more human and interesting way of looking at the matter, and as there is good authority for it, let us keep it in mind during our discussion.

We turn back, then, to the earliest writings. Of these, we may remember, we have fragments and accounts of two, a dialogue, the *Eudemus*, and an exordium in the style of Isocrates, the *Protrepticus*. Both date from Aristotle's Academy days. The former it will be recalled, was written on the occasion of the death of a fellow-pupil and bosom friend who joined Dion's ill-starred expedition against Syracuse and fell in battle there. Aristotle's grief found consolation in meditating upon the immortality of the soul, and particularly upon the proofs offered by Plato in the *Phaedo*. The *Eudemus* was the outcome of his meditations.

In it Aristotle argues particularly against the doctrine,

¹ This is the thesis of Jaeger's *Aristoteles*; cf. also Ross, *op. cit.*, p. 19.

already attacked in the *Phaedo*, that the soul is a harmony of the body and as such is subject to destruction when the body dies. The logic of his argument is much more complicated than Plato's and shows signs of growing independence, but the conclusion to which it brings him is essentially the same. The soul is a substance, a self-supporting entity, whereas harmony is not. She can, then, survive in her entirety the destruction of the body. This doctrine, it will be noted, throws back beyond the distinction made in the *Timaeus* between a mortal and an immortal part of the soul to the simpler doctrine of the immortality of the whole soul that the *Phaedo* sets forth. How Aristotle himself later veered towards the idea of the soul as a function of the body, came to distinguish an imperishable from a perishable part, and abandoned personal immortality we shall soon see.

The dialogue would appear also to reflect, with an exaggerated pessimism if anything, the dualistic, anti-worldly strain in Plato's teaching. The incompleteness, the limitations, and the imperfection of the world of becoming are contrasted with the perfection of the realm of pure being where alone the true good can be found. Indeed, Aristotle feels, it were almost better never to have been born and never to have entered the flux at all! Finally there are evidences of a belief in the Ideas, in the pre-existence of the soul, and in the Platonic theory of knowledge as recollection of what the soul has seen before birth.²

Strongly Platonic traits also mark the *Protrepticus*, a plea for the philosophic life addressed, as we have seen, to the Cyprian prince, Themistion. Here the practical wisdom or prudence that should inspire the activity of rulers is regarded as the immediate offspring of the Platonic vision of true being and as a function of the divine part of the soul. Both ethics and politics are proclaimed exact sciences, and the moral law is endowed with the absoluteness and certainty of a mathematical formula, quite after the fashion of the *Philebus*. In fact, the rules that princes should observe are to all intents and purposes the Platonic Ideas, and legislation is good in pro-

² Cf. Jaeger, *op. cit.*, pp. 37-52.

portion as it conforms to these higher realities. The king should be a philosopher, for it is only the philosopher who contemplates the original rather than the copy and imitates Reality directly. And only in meditating upon and imitating the invisible and the eternal can salvation be found. For the soul's association with the body is contrary to her nature. Subjected to its imperfections, she is like one fallen among thieves, and left by them to perish, bound to a corpse. Death is a happy relief for her, since through it she returns to the higher life which is her birthright.³

Here, as in the *Eudemus*, we shall presently note the extent to which Aristotle eventually modified his views. We are already prepared, of course, to find him minimizing the opposition between soul and body, as his psychology developed, and emerging from the mystical, Platonic-Orphic dualism of his youth. But we shall also see him abandoning the idea of an absolute good and an absolute morality, whether social or individual, turning ethics into a purely human concern, and drawing a sharp line between philosophic contemplation and the wisdom that has to do with practical affairs.

These transitions, however, were still in the future. If the reconstruction of the *Eudemus* and *Protrepticus* is to be trusted, it indicates that Aristotle began his philosophic career by deliberately swallowing a good part of the Platonic doctrine, hook, line, and sinker, and that he showed no inclination to break away while he was still a pupil at the Academy. The first signs of restiveness and of liberation from Platonic influence belong to the time he spent at Assos and Mytilene immediately after Plato's death and to the early years of his residence at the Macedonian court. From this period, we have seen, date the earlier portions of the *Metaphysics* and *Politics*, the *Eudemian Ethics*, and probably the dialogue *On Philosophy*.

Of this dialogue, the first part, which looks as if it were an expansion of the first book of the *Metaphysics*, gave a critical history of philosophical and religious speculation up to date. Inspired doubtless by the interest the Academy took in Zoroas-

³ Cf. Jaeger, *op. cit.*, pp. 80-102.

trianism and Chaldean astronomy, it pushed the beginnings of thought back to the Magi, and it also had much to say about Hesiod, the early cosmogonies, the Orphics, and the Seven Sages. It culminated naturally in Plato, whom Aristotle treated with the greatest respect as the high-water mark of the rising tide of philosophy. Having, however, thus paid his respects to his master, Aristotle turned, in the second part, with some sharpness upon the Platonic teaching. Unfortunately, almost none of his criticism has come down to us, but we know that it was directed against Plato's distinction between Numbers as Ideas and numbers as mathematical entities. And, even without the supporting evidence of the contemporary portions of the *Metaphysics*, it is sufficient to show that Aristotle was off on his own path at last.⁴

The third part of the treatise gave the new view of the world that this path had so far disclosed to him. The picture was still essentially Platonic, but shrunk as compared with Plato's canvas. The Ideas, now under grave suspicion, were conspicuously absent from it. Furthermore the Creator had been painted out, for Aristotle by this time openly dissented from his master's teaching that the universe was created. It was rank atheism he felt to suppose that this stupendous visible God, the world-all, could have a beginning or an end, or could be brought into being, or deprived of its existence, or even radically altered by an outside hand. The universe itself was obviously divine—and particularly the heavens, which Aristotle, following Plato's lead in the *Timaeus*, peopled with star-gods. And, as if to accent its divinity, he brought forward a fifth element, the aether, finer and purer than fire, as the substance of the celestial bodies and the proper *milieu* for their august inhabitants. So complete and splendid a whole must be uncreated, indestructible, unchangeable, in a word, eternal. By holding to this theory of the eternity of the world, Aristotle ranged against him not only the Platonists but the already fashionable belief in recurring world-cycles and catastrophes which later was to be taken up and made much of by the Stoics. But Aristotle continued to maintain his view till

⁴ Cf. Jaeger, *op. cit.*, pp. 126-140.

the end of his life, and it became one of the corner-stones of his system.⁵

In evicting the Ideas and the Creator from the universe, and in proclaiming the divinity of the world-all, he did not, however, turn pantheist. On the contrary, he seems to have retained the notion of a God existing apart from the universe, who, though not its maker, was still the cause of its motion and activity. This God is pure mind, and can be approached only through the life of reason. Belief in such a deity he defended by appeals to both logic and inner experience. The existence in nature of degrees, of higher and lower, of more or less complete, shows, he said, that there must be a final standard, a most high and perfect form of being, with reference to which gradations are measured and scaled. And again, the presence of such a Supreme Being is revealed in the awe we feel at the starry heavens, and in mystical and apparently supernatural states of consciousness such as prophetic dreams.⁶

Later commentators, confused by this various ascription of divinity to such a miscellany as the popular Gods, the stars, the aether, the universe as a whole, and a being outside the universe, accused Aristotle of inconsistency.⁷ And very likely their confusion reflects some lack of theological clearness in his mind at the time the dialogue *On Philosophy* was written. Still, it also looks very much as if he were already well on his way towards the famous doctrine of God as the unmoved mover of the universe—a doctrine he was soon to set forth at length in a treatise on the Divine Nature which has come down to us incorporated in the twelfth book of the *Metaphysics*.⁸

The views on the structure of the physical world set forth in the dialogues would seem to have reflected the new astronomical discoveries and enthusiasms of the epoch. Thanks to the work of Aristotle's fellow-pupils at the Academy, Eudoxus of Cnidus and Philip of Opus, there had been a general recognition of the greatness of the distance separating the earth, the sun, the moon, the planets, and the outer heavens. This had

⁵ Cf. Jaeger, *op. cit.*, pp. 141-142.

⁶ *Ibid.*, pp. 161 ff.

⁷ *Ibid.*, pp. 140 ff.

⁸ *Ibid.*, pp. 144-145.

upset the doctrine of the four elements by giving an immense and destructive preponderance to fire, the element hitherto believed to fill the upper atmosphere and to constitute the substance of the heavenly bodies. And it was probably for the purpose of ensuring the universe against destruction by fire that the aether to which Aristotle gave his philosophic benediction was originally invented.⁹

Moreover, observations made by Eudoxus suggested that the movements of the heavenly bodies were orderly and circular, and thus tended to confirm the Platonic doctrine that they were governed by intelligence. It may not, then, have been all pure religion and undefiled, but scientific reasoning, that led Aristotle to take over the "lesser Gods" of Plato and make them the souls of the stars. Later, at any rate, they did yeoman service as scientific explanations of the stellar motions. And already we are told that the circular orbits of the stars are due neither to nature, which inspires only straight up and down movements, nor to any other force, but solely to their free and rational will and activity.¹⁰ However, as Aristotle became more naturalistic, this theory was abandoned, and circular motion was made the inherent motion of the aether, just as movement in a straight line was the movement inherent in the other four elements. But even so, as we shall presently see, Aristotle never got over the initial dualism of his physics, and continued to contrast the characteristics of celestial with those of terrestrial motion.¹¹

II

Luckily the *Metaphysics* besides incorporating the treatise on the Divine Nature also preserves for us the reasons that led Aristotle eventually to reject the Platonic theory of Ideas. The winter of his discontent was apparently ushered in by Speusippus and Xenocrates, who had seized all too blindly upon Plato's doctrine of Idea-Numbers and mathematical objects and had read into it meanings that their master would

⁹ Cf. Jaeger, *op. cit.*, p. 157; Zeller, *op. cit.*, pp. 475-476.

¹⁰ Cf. Jaeger, *op. cit.*, pp. 154-155.

¹¹ *Ibid.*, pp. 156-159.

probably not have recognized. With this tendency in the Academy to "mathematicize" philosophy¹² Aristotle was completely at odds, and he attacked the Number theory at length and in detail, not once but over a period of years, elaborating his criticisms as time went on.¹³ How, he asks in his earlier objections, can we attribute substantial existence or goodness to things like Unity and Number, or make sense of the statement that the number-series is *produced* by Unity? How are we to make any valid distinction between the "intermediate" numbers of mathematics and Number-Forms? What can we have in mind when we talk of Numbers causing and creating the world of individual things?¹⁴ And some years later we find him hammering away even more forcibly at these points and assaulting with particular vehemence the two sorts of numbers, the indeterminate dyad, and the part assigned to the dyad in the procreation of the number-series.¹⁵

Whether all this fault finding was directed chiefly against developments within the Academy by an Aristotle who considered himself a good Platonist engaged in clearing away rank growths of misrepresentation from his master's doctrine, or whether he accepted the views of Speusippus and Xenocrates as an accurate reflection of Plato's teaching and attacked them as such, is, as we have seen, a point disputed among scholars.¹⁶ But in any case, if the interpretation of the Platonic theory of Numbers advanced and defended by some critics be correct it looks as if Aristotle failed to grasp the mathematical phase of the doctrine of Ideas.

The criticism of the Ideas as Numbers is attended by objections to many of their other aspects. These objections are briefly the following. The Platonic Forms, we are told, instead of explaining the world of sensible objects, merely reduplicate it. No way of regarding them as the causes of

¹² *Met.*, I, 9, 919a.

¹³ Cf. Jaeger, *op. cit.*, pp. 181 ff., 194 ff.

¹⁴ *Met.*, I, 9, 991b, 9-992a, 24; III, 4, 1001a, 5-1002b, 11; XIV, 3, 1090a, 2-4, 1092a, 1-5, 1092a, 22-26, 1093b, 29; XIII, 9-10.

¹⁵ *Met.*, XIII, 1-8.

¹⁶ Cf. also Jaeger, *op. cit.*, pp. 179-199; Robin, *Théorie Platonicienne*, pp. 439 ff.

particular things can be worked out. The so-called "participation" of the object in the Idea, or its "imitation" of the Idea, involves all sorts of contradictions and difficulties, not the least of which would be its inability to explain the movement and change that take place in the individual thing. Nor can entities like Forms, types, genera, and the like be conceived as existing in themselves apart from the particular objects of which they are the Forms. How, for example, can we conceive human nature as existing in itself apart from human beings? And, even if we could make a beginning of so conceiving types and genera, should we not end at once in a self-contradiction? For we should find ourselves thinking of universals—that is, of general qualities or natures predicated of individual things—as if they, too, were things. We should be thinking of the general as if it were a particular, of human nature as if it were a human being of sorts—a glorified, spiritual, metaphysical edition of a human being, if you like, but still a concrete, "personal" man.

In short, the universal has no concrete existence of its own. It is not a subject but a predicate, not a thing but an attribute of, or a truth about a thing. It is not then a power, and it is not suited for the rôle of a first principle. And if we try to force the part upon it we soon discover that we can at the most only derive other universals from it, as one truth may be deduced from another, but never a concrete fact.¹⁷

Whether these criticisms are well founded, or whether they rest on a serious misunderstanding of the Platonic doctrine, they are at least invaluable signposts of the direction in which Aristotle's thought is moving. They indicate what his problem is and how he must meet it. In the first place, his criticisms obviously might prove a boomerang and recoil upon himself. For it was a question whether the doubts he had cast upon the separate existence of the Platonic Ideas did not equally militate against the existence of any sort of supersensible being. After all, was there anything in Reality, any phase or aspect of Being, that could not be covered and exhausted by the physical

¹⁷ *Met.*, I, 9, 990a, 30 ff.; III, 6, 1002b, 10 ff.; XIII, 9-10, 1086b, 15 ff., 8, 1086a, 30 ff.

and biological sciences? But if there were not, then what would become of Aristotle's God? Surely he too would have to go the way of the Ideas, the Creator, and the World-Soul of Plato. And in that case farewell to religion, theology, metaphysics, and all speculation about anything beyond the pale of the senses.

Aristotle had, then, to keep God and supersensible Being, metaphysics and theology, from sharing the fate of the Ideas. But to do so he had to free them from the weaknesses that to his mind vitiated the Platonic theory. He must find some way of bridging the gap that seemed still to yawn between his God and the universe whose activities this God inspired. He must somehow make supersensible continuous with sensible Being. Furthermore, there was a work of repair to be done within the universe itself. Plato, he felt, had torn each individual, sensible object limb from limb, wrenching its universal and its particular aspects asunder and leaving not so much as a ligament to connect them. The result was that the sort of thing an object was no longer had anything to do with there being an *object* of that sort. The human type, for example, was in no wise instrumental in producing concrete men. It was there in them, to be sure, but only casually. The exemplification of it in a sensible order took place unbeknownst to it, without in any way affecting its nature or existence. Indeed, the whole concrete universe might disappear for all the Ideas knew or cared. This dislocation of the universal from the particular in every concrete fact had to be reduced. What made John Smith a man rather than a horse or a cow must certainly play a considerable part in bringing him into actual being as a concrete individual here and now. Human nature was surely at home and not travelling aimlessly abroad when it appeared in human beings. Or, if the Ideas were really strangers in a strange land when we met them in the sensible world, at least they had not strayed there but were on business of some sort.

Everywhere, then, throughout the universe the general type or Form displayed in the particular object and the particular object in which it was displayed had to be brought into some

sort of vital and organic relation. Plato, to be sure, after pulling them apart had tried to wire them together with intermediary beings like the Creator and the World-Soul. But although these wires were of precious metal, they were nevertheless foreign and unabsorbable materials which really held apart to all eternity the worlds they were supposed to connect. And at the best they were poor substitutes for a natural junction. Some way must be found of contriving an organic healing of the breach between the universal and the particular. The Platonic Ideas and their sensible instances must knit together without scar or seam, and become flesh of each other's flesh and bone of each other's bone. Not until their complete union had been brought about could we regard Reality as satisfactorily convalescent from the injuries inflicted upon it by the Platonic doctrine of "separation."

This did not mean, however, that we were unable to *conceive* universals as such apart from individuals. Of course, when we thought about John Smith or Tom Brown we could abstract in our minds the concept of human nature in general from the conditions that rendered its embodiment and individualization possible. We must only be on our guard against regarding these abstractions as more than abstractions, and especially as substances and first principles. After all, that with which we always found ourselves confronted and had to do business was not pure Form on the one hand and something that absolutely lacked Form on the other, but specific combinations of Form and Matter. We never ran across in the street just human nature in general or just totally dehumanized lumps of clay. We met individual *men*.

There was another inference, too, that we must not draw. Because general notions proved to be unsubstantial and abstract when separated from individual things we were not therefore to conclude, as did the Cynics and Cyrenaics, that they had no foundation in fact, and that the natures particular objects apparently shared in common were at the best a mirage of chance resemblances and had no reality. Severed from its particulars, the general type or Form exhibited by the members of a kind might wither and die, and persist only as it

was embalmed and preserved in thought. But that did not prevent it, when united to its instances, from being part and parcel of their individual existence. Human nature *in* John and Tom was a real and indispensable factor in their reality. Nay more, the severance of the universal from the particular was also fatal to the reality of the particular. Take away from a thing the *sort* of thing it is, and you have not only turned the sort into a phantom but you have destroyed the thing itself. You and I, if deprived of our human nature, lose our own souls as well. In a word, even if the Form or nature of a thing is not a Platonic Idea existing before and independent of its instances, it is as little a meaningless after-thought about chance aggregations of objects. The universal, though it *exists* nowhere else, really does exist *in* its particulars, and in them it is the very breath of their life. Along some such lines, we may safely assume, Aristotle's thought was progressing as he meditated upon what seemed to him the weaknesses of the Platonic theory. The conclusion towards which he would be led is plain enough. The individual, not the universal, the particular, not the Platonic Idea, was the centre of gravity of real existence. There was no Form without Matter, no Matter without Form. Hence Reality must be a combination of the two. And a combination of the two always meant individualization and the presence of a specific being.

At this point, however, his thought would seem to divide and waver. We are agreed, to put it more or less in his own words, that substantiality does not pertain to Form in so far as it is just Form, for a substance cannot be a predicate or definition of anything else. It is rather the subject with which definitions are concerned and to which predicates are attached. But we are also agreed that substance cannot be a mere subject, a blank substratum in which predicates inhere, like pins in a pin cushion, for then it would be wholly indeterminate in itself and would be just Matter. And whatever else substance may or may not be, it is determinate. Is, however, simple concreteness enough to make a substance? Or is individuality also required? Is the particular object a substance because it is

an *object*, a *given* datum, or because it is *this* given datum rather than that? That is the question.

At times in dealing with this problem, and especially in his polemic against the Ideas, Aristotle seems to think mere concreteness sufficient. But at others he appears to doubt whether mere concreteness is enough. We can understand his doubts. The union of Form and Matter in human flesh and blood may make me a concrete man. But it does not make me *this* man rather than *that*, since all other men are just as much combinations of Matter and Form and just as concrete as I am. The key to my being myself rather than somebody else lies in my particular nature. I am *essentially* myself and no one else. When this is uppermost in Aristotle's mind, he tends to identify substance with that which is essential to the thing's being the thing it is and nothing else. "Essence is substance."¹⁸ Moreover, what is the concrete thing, the "primary and self-subsistent thing,"¹⁹ if it is not one and the same as its essence? Take from it that which makes it *this* thing and no other, and you have also removed from it that which makes it *anything* at all. Concreteness, then, it might seem, could always be sharpened down to individuality and find its point in the possession of a distinctive nature or essence.²⁰ This shifting between mere concreteness and individuality is never quite absent from Aristotle's thought, and it is frequently difficult to know upon which foot he is standing.

Aristotle also admits, as we shall see when we come to his logic, that the term "substance" may be applied by courtesy and secondarily to universals, when these are regarded as *individuating* one class of substances from another, and as providing the essential and distinctive properties of a given genus. And the qualities that mark out the species within the genus and the subspecies within the species have an even greater right to the title, which increases as the individual is

¹⁸ *Met.*, VII, 6, 1031b, 30.

¹⁹ *Ibid.*, 1032a, 5.

²⁰ Cf. Zeller, *op. cit.*, I, pp. 329 ff.; Ross, *op. cit.*, pp. 165-166; *Met.*, VII, 1, 1028a, 25 ff., 2-6 (1028b-1032a). Book VII is believed by Jaeger, *op. cit.*, pp. 204 ff., 209 ff., to be an independent, later treatise eventually inserted into the *Metaphysics*. Ross, however, disagrees.

more and more nearly isolated. But in its true and primary sense the word is applicable to the individual alone.²¹

This development away from Plato's doctrines, and the increasing hope of overcoming the "separations" they had introduced into the universe, were apparently attended by a change in Aristotle's views on the relations of the sciences and the nature of philosophy. Both the dialogue *On Philosophy* and certain earlier portions of the *Metaphysics*, we are told, suggest that Aristotle at first limited the field of dialectic or philosophy proper to supersensible being alone, much as Plato had done. This was tantamount to identifying metaphysics with theology, since the Platonic Ideas had been already ousted, and God alone remained as the sole form of supersensible existence. And theology could be no more than one science among others, dealing with a distinctly confined and somewhat remote field. It was only later, so the argument continues, after the doctrine of substance took on shape, and the universe was falling more and more within a single perspective, that the scope of metaphysics broadened and became all-inclusive, taking for its province the whole of a more widely conceived Reality including the sensible as well as the supersensible world.²²

However that may be, we soon find Aristotle distinguishing philosophy from the other sciences as a study of Being as such, and contrasting its universality with their specialized investigations of single aspects of Reality. And we have seen him also reducing the primary significance of being to substance, and allowing only a secondary application of the term to such things as universals, unity and plurality, negatives, and the like. The study of these secondary applications is, he feels, to be undertaken chiefly because of the light they shed upon the central problem.²³ The "being" of accidental or incidental qualities and the "being" of truth are barred from metaphysics, in that the one is not a subject of scientific research at all, and that the other belongs to the domain of

²¹ Cf. Zeller, *op. cit.*, I, pp. 332 ff.

²² Cf. Jaeger, *op. cit.*, pp. 213 ff., 226 ff.; Ross, *op. cit.*, pp. 156-157.

²³ *Met.*, IV, 1-3 (1003a-1005b). Cf. VI, 1 (1025b-1026a).

psychology and logic.²⁴ But naturally, it is the business of metaphysics to investigate the logical principles that the special sciences accept without question, and to do this it must take under its consideration the two great fundamental axioms upon which the presuppositions of thought and science rest, the laws of self-contradiction and excluded middle. For these, after all, provide the final test of what can and what cannot *be* in any and every sense of the word. Incidentally, Aristotle defends these laws against the attacks made upon them by the Sophists, and launches a vigorous counter-offensive against the Protagorean theory of the relativity of truth, an attack which also renders untenable the identification of knowledge with sensation and the Heracleitean doctrine of the identity of opposites upon which Protagoras fell back for support.²⁵

The doctrines of substance and of the scope and object of metaphysical speculation could not, however, altogether escape scandal as they grew up and played together in Aristotle's mind, and their association led to one embarrassing result which he was unable to leave on anybody else's doorstep. The universal might be dislodged from its Platonic position as the supremely *real* object, and the individual might be enthroned in its stead. But, unfortunately for Aristotle's purposes, it could not be dislodged from its equally Platonic position as the supreme and only true object of *knowledge*. To that it clung with a grim tenacity which could not be overcome. Say what you would, and Aristotle, after all, did not want or try to say anything to the contrary, the process of knowing lay in classification. Scientific investigation consisted in extracting from particulars what was common to them, and only as the individual was dissected into a set of universals—laws, types, qualities shared in common with others, and the like—could it be said to be *known*. Thus he found himself nursing the lusty and crying paradox that knowledge did not have Reality or substance for its object, since substance was individual, and the individual alone was real. But knowledge that was not knowledge of anything real was a bit off color, to say the least.

Aristotle recognized how compromising it was to be caught

²⁴ *Met.*, VI, 2-4 (1026a-1028a).

²⁵ *Met.*, IV, 3-8 (1005a-1012b).

in such a position,²⁶ but he never succeeded in explaining matters satisfactorily. He made, to be sure, a couple of attempts that might have rendered the situation less equivocal, if only he had seen them through. He suggested dividing knowledge into two sorts, potential knowledge, which dealt with "the universal and indefinite," and actual, which, being a specific act of knowledge, must be focussed upon a definite example of the universal. For example, perception of a color in general is potential, and is incidental to the actual perception of a given instance of the color in question. Similarly a potential knowledge of the letter "alpha" in general is involved in the grammarian's actual study, here and now, of a particular "alpha" occurring in some word.²⁷

Possible implications of this passage are developed in another place, where he points out that although the concrete thing is always "stated and cognized by means of the universal formula," it is also "known by the aid of intuitive reason or sensation."²⁸ Here he seems to be headed towards a recognition of the unavoidable and irreducible *given* element of sense that always figures in knowledge. Knowledge may be of universals, but it must also be *about* particulars if it is to be worthy of the name. It may be a discovery of common properties and general laws, but the universal truths it discovers must explain individual things. Thus, when I know all *about* a physical body, what I find myself really knowing is the laws of motion, inertia, gravitation, etc. But there is also present in my thought a residual, unresolved, "this here thing" aspect, which my thinking must use for a ground for taking off and for landing again from its exploratory flight. However, Aristotle never followed up these clues, and the difficulties involved in regarding the individual as the only thing that has real being and the universal as the only thing that can be known constitute one of the self-contradictions of his system.²⁹

²⁶ *Met.*, XIII, 10, 1087a, 10 ff.

²⁷ *Ibid.*, 1087a, 5-25.

²⁸ *Met.*, VII, 10, 1036a, 2-10.

²⁹ Cf. Zeller, *op. cit.*, II, pp. 377 ff.; Ross, *op. cit.*, p. 171; Zeller, *op. cit.*, pp. 334 ff.

III

So far our discussion might lead us to think that Aristotle jumped to his conclusion that substance is individual and that the particular object is the only real being. This, however, is not the case. The criticism that wrecked the Platonic Ideas was accompanied by a long and careful work of reconstruction calculated to place the supreme reality of the individual upon a sound and positive base. Aristotle saw clearly how easy it was to relegate the particular object to a secondary position as a loose and accidental union of Form and Matter, and how readily in these circumstances Form and Matter might be considered primary and treated as independent realities. And his eyes were open to the facility and impressiveness of a hard and fast distinction between sensible and supersensible existence.

If, then, the tie between Form and Matter in the individual was to be made essential and indissoluble, and if the gulf between the supersensible and the sensible worlds was to be bridged, a principle of continuity was needed which would not only make each particular object a real unit, but also completely organize into a single whole all the different sorts of individuals it took to make a universe. A way of shading Form and Matter into one another must be found. They must be made convertible terms. Nay, they should, if possible, be reduced to mere differences of point of view about one and the same thing. In like manner, sensible being must be made to shade and merge into supersensible being in a series of gradations in which no break appeared. God must be not a thing sundered from the world, but rather a Form of being to which all the other Forms, displayed in the sensible order, naturally led. He must be the Limit, the Being that existed to the n th power, towards which the universe aspired and mounted step by step. This view, we may remember, Aristotle was already setting forth in the dialogue *On Philosophy* as an argument for the existence of a deity.

How a universe reconstructed along these lines would look may well have been plain far in advance of its completion.

The difference in kind between the sensible and the Ideal worlds, which Aristotle felt that Plato had favored, would resolve themselves into differences of degree. Supersensible being would be merely a complete attainment, sensible being an incomplete realization, of all that Being as such was good for. At the apex of such a scheme would stand the perfect individual, the individual whose nature or career developed to the fullest the best opportunities that Reality afforded. Below him would come tier after tier of particular objects that developed to a less high degree the lower capacities of Being. A general distinguishing mark of these inferior Forms of existence might also be made out. All sensible particulars were mixtures of self-fulfilment and of undeveloped possibilities that their proper natures were unable to cope with and express. They had to be absorbed and utilized by individuals of another species before they could get all their potentialities realized. Hay, for instance, could not realize within its vegetable nature the traits in its character that made it good fodder. It took browsing cattle to do that. But neither could cattle express in or among themselves their ability to become beef-steak. They could not feed upon themselves or upon one another. To realize this aspect of their nature man was necessary. In short, however perfectly a sensible object might realize its own particular Form, it was still material for some further Form. Or we might venture upon a stronger expression and say that no Form of being whatsoever, short of perfection, was pure, self-contained, and self-realized Form. It was also Matter, for it was always in part defined and justified in terms of some Form higher than itself.

In a world so remodelled Form and Matter would really turn out to be convertible and relative. It would all depend upon how you looked at a thing. Hay, to revert to our former example, might be regarded as a vegetable *Form* assumed by the soil, since it realized a capacity in the soil for growing grass. But it might equally well be regarded as vegetable *Matter* for the cattle that fed upon it, since it proved capable of nourishing them and was a means of realizing the cattle Form. But the cattle again, in terms of which the food value

of hay was expressed, had themselves a food value that it took the requirements of human nature to measure. Every sensible object then would be double-faced, would look downwards to something whose possibilities it helped realize, and upwards to something without whose presence and aid all that it was capable of could not be put into actual effect. In this unfinished aspect of every sensible object, and in the consequent necessity of seeking its complete and final explanation in something outside, beyond, and above it, the secret of its distinctively material character might lurk.

Conversely, the distinctive mark of an immaterial being might lie in the fact that it could realize within itself all its potentialities, and therefore called for nothing higher than itself to supplement and complete its activity. Thus if the fatted calf could only fatten upon itself instead of upon grass, and have for itself the value that actually, as matters stand, it takes the butcher to realize—if, in a word, it could only be beefsteak to itself—there could be no idolatry in bowing down and worshipping it as God. For hay would both feed upon and be fed upon by something outside itself; but the calf would feed upon itself alone and be fed upon by nothing outside itself. Its life would be self-sustained and self-contained, and hence would mark the highest point to which natural processes could be developed and the final goal towards which they might seem to aspire.

Now the highest thing we meet with on earth, as our universe is actually constituted, is human intelligence. The minds or souls of the stars are to be sure superior, since they, being sustained by deathless bodies, are imperishable. But the astral intelligences, as we shall soon see, were more of a liability than an asset in the Aristotelian system, and may for the moment be left out of the picture. Turning back, then, to human minds as the highest forms of being with which we are in direct contact, we find that for all their superiority they are really in the same situation as the humble hay we have just been talking about. For they need a body, senses, and the material of sensible experience to sustain them, just as hay needs soil to grow in. Not only that, but in giving a rational form to the stuff of sensible experience they are also providing matter for science and phi-

losophy to use in the quest of truth. And it is only from utilizing this intellectual matter as the search goes on, and from trying to recast the results of scientific research in the form of a contemplation of truth, that our thinking gets the highest value possible to human thought; just as hay has perhaps realized its noblest possibilities when it has taken on the form of good ribs of beef.

Human intelligence, therefore, feeding as it does upon the senses, and at the same time ever aspiring to become absorbed in some act of consummate vision, cannot be the actual apex and keystone of the world. But the form such a keystone must take on is sufficiently indicated by the converging lines of the sensible order and by the point at which their sudden truncation occurs. What we are stopping just short of, and what we need to cap the edifice, is an intelligence that can think independently of a body and of senses, and that thinks about nothing outside itself. This is the only logical culmination of an ascending series suddenly arrested at the level of human or astral intelligence, such as our universe seems to be. And sometimes, in moments of profound meditation, when we have lost consciousness of our surroundings and even of our body, and are almost thinking just for the sake of thought alone, do we not tremble upon the verge of actualizing even within our human experience this highest possibility of thought and being? So fine indeed is the line that divides the higher reaches of our mental activity from the activity of such a supreme intelligence that the one might seem merely to continue and complete the other.³⁰

Meantime, Aristotle's studies in psychology, biology, and ethics were pouring in abundant evidence of a kind to encourage and confirm his view that Form and Matter are not entities in themselves existing apart from particular objects, but are rather relations in which individual substances stand to one another. Hard-headed, scientific fact gave no countenance to a metaphysical division of the particular thing into two distinct and non-convertible principles. On the contrary, it bore out the contention that what we called Form in an object, and what

³⁰ Cf. Ross, *op. cit.*, p. 153.

we called Matter, was in reality entirely a question of point of view, and that these two aspects were interchangeable and continuous. On this point Aristotle's researches into the nature of motion and change were particularly convincing, as we are about to see for ourselves.

CHAPTER III

FORM AND MATTER. THE ACTUAL AND THE POTENTIAL

I

AN analysis of any and every sort of change and movement reveals, says Aristotle, four factors at work.¹ No one of these four can be dispensed with. All of them must be recognized and grasped before the why and wherefore of any process can be understood. Take a simple act like the making of a statue.² There must exist a stuff like bronze capable of being worked and a form into which it can be worked. So much Plato saw after a fashion.³ But besides the matter and the form there must be a sculptor's hand to do the work of forming, and an animating vision or purpose in the sculptor's mind that guides his hand as he works. In other words, there must be an exertion of force or energy, and a reason why that energy is exerted as it is. Or again, to elaborate another instance cited by Aristotle,⁴ take a natural process like animal reproduction. It requires the presence of material, provided by the female,⁵ to be incorporated in an embryo, of a father to set the process of incorporation going, and of a pattern of some sort for the embryo to follow and illustrate in its growth. Last but not least, there must also be inherent in that growth an aim or purpose to realize not simply "any old" pattern but the form of the animal's proper species. It is because of this purpose

¹ Cf. *Met.*, V, 2, 1013a 25-1014a 25; *Phys.*, II, 7, 198a 14-198b 5.

² *Met.*, V, 2, 1013a, 25.

³ *Met.*, I, 6, 988a-7 ff.

⁴ *Met.*, V, 2, 1013a, 30-31.

⁵ According to Aristotle the female contributes only the material for the offspring. Its form comes from the male alone.

or aim that species breed true and "man generates man."⁶ Otherwise in our pre-natal development we might follow the pattern of the monkey or the cockatoo, and cats might just as well give birth to dogs or to assorted litters of random types as to kittens. Or finally, let us concoct an illustration of our own. In building up a football team we must have a suitable stuff or *material*, which we find in the quickness, strength, courage, and intelligence of the players. These abilities must then be organized, or "licked into shape" as we say. In other words they must take on and realize the *form* of a team. To do this the players must bend every effort, and show themselves *efficient*. And their work and expenditure of force must not be haphazard but always controlled by a vision of the *end* after which they are striving.

The same four factors appear also in simple cases of what we to-day should call mechanical motion.⁷ There must be: (1) a body to move, (2) a line or form for the motion to follow or take on, (3) a shove or push of some sort to start things off, and (4) an inclination or purpose in the body to move in a certain way.⁸ This last factor of purpose is best exemplified of course in acts inspired by a conscious aim, as, for instance, when we take a walk for the sake of our health.⁹ But it is unconsciously present and operative in all natural processes.¹⁰

These four indispensable elements are called by Aristotle the *material cause*, the *formal cause*, the *efficient cause*, and the *final cause*, respectively. Their relations naturally are capable of some refinement and complication, which, however, need not detain us.¹¹ Moreover, further observation shows us that, even as it is, our analysis has been overdone, and that we have in a way been hairsplitting. The material cause, to be sure, stands out for the moment quite distinct, but the three others prove to be not so independent of one another. Indeed, we might seem

⁶ *Physics*, II, 7, 198a, 26. The translations throughout are those of the Oxford Edition of Aristotle in English.

⁷ Cf. *De Caelo*, IV, 3, 311a, 1 ff.

⁸ Cf. Ross, *op. cit.*, p. 75.

⁹ *Met.*, V, 2, 1013a, 33.

¹⁰ For a discussion of this point and references cf. Zeller, *op. cit.*, I, pp. 355 ff.; Ross, *op. cit.*, pp. 78 ff.

¹¹ Cf. Ross, *op. cit.*, p. 72.

to be dealing with three aspects of one and the same principle rather than with three separate factors. For look once more at the making of a statue. The sculptor's mind is filled at the moment with the form of the statue on which he is working, and this form constitutes the end towards which he strives. It gives content to his purpose and makes him go through the appropriate movements of chiselling or modelling. Without it there would be no motive to work, and without motive his hand would not move. Or take the football team. The form or nature of a good football team is both the end after which the players are striving and the driving power that initiates and sustains their practice.

In the same way, the formal, final, and efficient causes combine in the natural process of reproduction. It is the human Form in the father that determines the human form of the offspring. And the reproduction of that form in the offspring, or in other words, the perpetuation of the species, is the end or reason for the act of generation. The human Form, then, is formal, efficient, and final cause of the reproduction of human beings.¹² Again, in the case of plain physical movement every motion follows a given line towards a given end. This line and this end are inherent in whatever sets up the movement, and are part and parcel of its cause, just as the curve and the aim of a baseball are part of the pitcher's throw. It is the nature of fire, to use an Aristotelian example, to proceed to the circumference of the universe. It proceeds there in order to get there. Its aim and its nature make it proceed there. Once more the formal, efficient, and final causes turn out to be the same.¹³

II

We have now taken a long step forward in unifying our world. The material cause, however, still stands apart and in apparent opposition to our new trinity-in-unity, and unless

¹² Cf. *Physics*, II, 7, 198a, 24 ff.

¹³ Cf. *De Caelo*, IV, 4, 311a, 1 ff.; Ross, *op. cit.*, p. 75. For further references and a discussion of the identity of the formal, efficient, and final causes cf. Zeller, *op. cit.*, pp. 355 ff.

its separation can be overcome we may appear to be in some danger of reverting to Platonic dualism. But Aristotle is ready with his solution. His observation of change and motion has revealed to him not only the four causes, but another fact of immense significance, as we shall soon see, to the relations between Form and Matter. All process and becoming, movement, growth, alteration, transformation, and the like may be reduced to a least common denominator, and may be described as essentially a turning of unrealized possibilities into actual facts.

It is not difficult to make out what Aristotle is driving at. We can see for ourselves that, if things are to move or change, they must at each instant be something or somewhere they were not the instant before. If they in no respect differed from moment to moment, we could not say that they had altered or shifted. And yet, obviously it must have been *possible* a moment ago for them to be what and where they are now. Had it been impossible, they could not be in their present place or condition. Any and every example of Becoming, then, reveals two contrasted moments or states. It reveals also that these states stand to each other in the relation of the possible to the realization of that possibility in actual form, and that the passage from one to the other, or in other words the process of becoming, may be defined as Aristotle defines it, as an actualization of the potential.¹⁴

But English words like "realization" and "actualization" are equivocal. They have a transitive as well as an intransitive sense, and stand for the process as well as for the state of being to which the process leads and in which it ends. Aristotle's thought did not altogether escape the same ambiguity. He coins, to be sure, the word "Entelechy,"¹⁵ perhaps best translated into English as "actuality," to designate that activity of *maintaining* Form which completes and crystallizes the motion or change involved in *attaining* it. And he also uses the term

¹⁴ Cf. *Met.*, XI, 9, 1065b, 5 ff.; *Physics*, III, 1, 201a, 10 ff.; VIII, 1, 251a, 9 ff.; also Ross, *op. cit.*, pp. 83-84; Zeller, I, pp. 380 ff.; Rolfes, *Die Philosophie des Aristoteles*, pp. 85 ff.

¹⁵ Probably derived from the Greek "to be absolute" or "complete."

“activity” as contrasted with motion to differentiate the state from the process of realization.¹⁶ But he does not always draw the distinction too nicely.¹⁷ Nor can he, for, after all, the equivocation exists in the process of becoming itself. Just by the fact that they are going on, change and movement express and actualize the ability to move and change. While they are in progress they are not in course of being realized, like the *dénouement* to which they are leading. They are already an actual fact. Motion, then, though it is a bringing to realization of all the other capacities of an object, is itself the attained realization or actual form of the object’s capacity for movement as such.¹⁸

The discovery that all change and movement may be defined as an actualization of the potential is capped by another no less important for our purpose. Aristotle has found that the relation between the actual and the potential is identical with the relation between Form and Matter, and hence that Form and Actuality, and Matter and Potentiality are convertible terms. Here, again, there is no difficulty in following him. Indeed, if we look back over the preceding pages, we shall find that we ourselves have already slipped with perfect ease and unconsciousness into the habit of using the words interchangeably. We have done so because the *possibilities* out of which a thing arises really are the *stuff* out of which it is made; and because any *actual* state of being is also an organized, definable, *formal* condition of existence. It makes no difference whether we call hay *potentiality* or *material* for beefsteak, or a lump of bronze a *possible* statue or *stuff* for a statue. The essential relation between the two substances is equally well described by either set of terms. So too, we can talk of the grown man either as *giving form* or as *giving actuality* to what is inherent in the child, and mean the same thing. And we can refer indiscriminately to a football team as the *shape* into which the qualities of the players have been “licked,” or as a *realization* of the players’ capacities. Even the behavior of a body simply

¹⁶ Cf. Ross, *op. cit.*, pp. 81–82.

¹⁷ Cf. Zeller, *op. cit.*, pp. 379 ff., and notes.

¹⁸ Cf. *Physics*, III, 2, 202b ff.; VIII, 1, 251a, 9 ff.

moving in space can be treated at will as either the *fulfilment* or the *formulation* of its natural line. Here again one term may be used in the place of the other without altering the sense, and without less vividly or accurately describing the character of the relation involved.

Wherever, then, in our ensuing discussion we come upon the words Actuality and Potentiality or the equivalents, we may substitute Form and Matter. With this in mind let us see what light a further study of change and movement sheds upon the nature and relations of the Actual and the Potential. A first fruit of this study is the startling discovery that the grown-up, completed thing, or in other words, the *actual*, must be prior to the conditions that have made it possible.

For a moment such a statement makes the world look topsy-turvy. How, we indignantly ask, can we make sense or logic of the notion that mature age is prior to youth, the chick to the egg it was hatched from, the statue to the bronze of which it is made, the trajectory that a body has not yet completed to the position in which it is here and now? Surely the raw material must be on hand before the finished product, and the possibility of existing must precede actual existence! But it behooves us to go slowly and to re-examine the situation more carefully before committing ourselves. And a moment's reflection shows us that the logic of the situation is really on Aristotle's side. For how can we think of a thing's being possible without first having in mind what it is that is possible? Mere possibility, or, in other words, capacity for nothing in particular, would be capacity for becoming nothing at all, and capacity for becoming nothing at all could not even be called capacity. Indeed, it would be positive incapacity. Or, to put it the other way round, ability means ability to become something actual, and it is only because it can become this something that it can be an ability. The actual, then, must be already present in some form or other before it can be regarded as potential; or, as Aristotle puts it, the notion of the actual thing must precede and condition our knowledge or description of the possibility of that thing's occurring.¹⁹

¹⁹ *Met.*, IX, 8, 1049b, 10 ff.; cf. Ross, *op. cit.*, p. 177.

Nor is there any quarrel between logic and the observed facts of change and movement. Take bronze, or the egg, or the child. It is true that so far as we regard them, not as potentialities of further development, but as forms of being realizing the capacities latent in tin and copper or in spermatozoa and ova, they come before the statue, and the chicken, and the man. But look at them in relation to the things they are to become. How can bronze be such stuff as statues are made of unless there are such things as statues to be made out of it? And how can the development of any particular lump of bronze into a particular statue take place unless the form of the completed statue is somehow present from the beginning in the productive process to instigate and direct it? Otherwise the metal might just as well become a bowl or a tripod. Or again, how could the embryo become the child, and the child the man, if, even before the child was begotten, there were not actually such a thing as the human species, and if that species did not in some way preside over the process of reproduction, guiding the growth of the organism and making it even at the moment of conception a possible man rather than a possible dog or bird. Or take the movement of an inorganic body. It could not follow its particular line unless the form and nature of its movement were actually operating in it, to make it move as it does.

In fact, then, as in logic it is the Form of the completed thing that determines beforehand what is fit raw material for the thing. And it is the nature of the finished product that inspires and controls the process of converting the raw material into the Form in question. Becoming and change and movement bear their witness to the priority of the actual.²⁰ And as Actuality is characteristic of completeness in a substance, and is the goal or reason for its existence and for its growth and particular nature, the actual may be said to be prior not only logically but "substantially" to the potential.²¹

The way in which Actuality evinces its priority and determines and develops Potentiality is most clearly seen in the production of artificial objects. The Form of the finished product is in the maker's mind from the beginning, selects through him

²⁰ *Met.*, IX, 8, 1049b, 17 ff., 1051a, 3.

²¹ *Ibid.*, 1050a, 3 ff.

the stuff suitable for its embodiment, projects itself into the metal or brick or wood, as the case may be, and thereby creates the possibilities of the material. And these possibilities the Form realizes by working through the conscious aim and purpose of the artist. In natural processes the situation, though more obscure, is the same. For according to Aristotle all such processes have a *dénouement* or culmination towards which they are attracted, and for the sake of producing which they take place. But, whereas in a process guided by art the culmination is foreseen, and the Form in the artist's mind selects and works up its material from without, in Nature the Form is imminent in the process itself, and is realized unconsciously though none the less purposively.²² Aristotle gives as an especially clear example of what he means the case of "a doctor doctoring himself."²³

A final proof of the priority of the actual to the potential is offered by the consideration that the more completely realized a thing is, the less capacity it will have for further change and transition. A completely realized and finished thing would be beyond any possibility whatsoever of transformation and movement. Nothing more could be made of it, and it would have nowhere else to go in quest of greater perfection. It could then be properly described as pure Actuality or Form wholly free from Matter. Such an object, being exempt from change of place or quality, could not grow old or pass away, but would be everlasting and eternally itself. This condition, Aristotle feels, is almost, though not quite, realized by the heavenly bodies. They have no capacity for transformation and hence are changeless and imperishable. They have only a capacity for "whence" and "whither," which actualizes itself by perpetual revolution in space. This, incidentally, is a proof of the uncreated and indestructible character of the universe.²⁴ It also demonstrates the priority of the actual, since the fewer potentialities a thing has and the nearer it approximates to a

²² *Physics*, II, 8, 199b, 25 ff.

²³ *Ibid.*, 30-31. For a discussion of Aristotle's theory that the operations of Nature are unconscious art, and for further reference cf. Zeller, *op. cit.*, I, pp. 418, 464; Rolfes, *op. cit.*, pp. 78 ff.

²⁴ *Met.*, IX, 8, 1050b, 20 ff.

pure Actuality, the higher and better and more important it is.

In passing, Aristotle seizes the opportunity to have another dig at Plato and to reassert the individual nature of all actual substance. The Forms as Plato conceives them are, he tells us, mere possibilities of being which become actual only in so far as they are enacted in individual shape.²⁵ The Idea of movement, for example, is not itself a motion. Its existence shows merely that motion is possible. But if motion is to exist, there must be something more mobile, more actually moving than the Idea of motion. This will be the particular movement which gives actual expression to the Idea. It is in the particular motion, then, not in the Idea of motion, that actuality and real being are to be found.²⁶

We shall have occasion presently to note the importance in the Aristotelian system of the priority of the actual to the potential, or in other words of Form to Matter. But for a moment we are engrossed with an even more significant fact. Our discovery that all change and movement can be formulated as an actualizing of potentiality has also shown us at last how to overcome the Platonic separation of the final-formal-efficient cause from the material cause. For the formula can be successfully applied only if Actuality and Potentiality are regarded, not as ultimate metaphysical entities, but as merely two different ways of looking at one and the same substance. In other words, if change is really to take place, Form and Matter must be relative, not absolute.

Take once more our old familiar bronze. It is an alloy of tin and copper. As such it actualizes and gives explicit form to capacities in those elements for being amalgamated into a metal which, in its turn, is possessed of certain new qualities, among them fitness for being made into a statue. It will be noted, however, that neither tin nor copper by itself is suitable stuff for the artist's purpose. Neither of them therefore in itself can be called the potentiality of a statue. To be called that they must first assume the *form* of bronze. That is, it requires *actual* bronze, not the possibilities of bronze, to make the

²⁵ *Met.*, IX, 8, 1050b, 35 ff.

²⁶ *Ibid.*, 35 ff.

statue possible. The very metal, then, that is *actually* bronze because it has realized the potentialities latent in tin and copper, is just by virtue of having realized those capacities itself a *potential* statue.

Or again, take a carnivorous animal. Like all live things it draws its nourishment from the earth, but it cannot do so directly. It cannot eat dirt. Nor for that matter can it eat and digest the realization in vegetable form of the earth's capacity for supporting life. A tiger would not last long on grass. On the other hand, dirt does possess a food value for vegetable life, and is potential grass, and vegetable life does have a food value for, and is potentially the herbivorous animals upon which the tiger can feed. It is all rather like The House That Jack Built. Not only must the potentialities in the soil be actualized in vegetable form, but the potentialities afforded by the vegetable form (which are not to be found in the soil as such) must be actualized in animal form, before the tiger finds the potentialities (non-existent in the vegetables as such) that its carnivorous nature can assimilate and transform.²⁷

The sum and substance of all this is that we must not think of change as a process in which a single homogeneous stuff or potentiality passes from Form to Form, preserving meantime essential characteristics of its own, as water may be poured from cup to cup and yet remain the same. The temptation, however, to take this view that all potentiality is homogeneous is very great. In the first place, qualities or Forms plainly cannot become one another. The *sort* of thing an object is at one moment does not change into the *sort* of thing it is at the next, when the object itself changes from one sort to the other.²⁸ When the leaves turn in autumn, for example, there is a passage from green to brown. But it is not green that turns brown. It is the leaf. The color green has not ceased to exist as a color simply because something has ceased to be green. In the same way, in making a statue out of bronze the sculptor does not turn what characterizes bronze as such into what characterizes a statue as such. He merely turns something that possesses the one character into something that possesses the other.

²⁷ Cf. *Met.*, IX, 8, 1048b, 35 ff.

²⁸ *Met.*, XII, 1, 1019b, 3 ff.

Indeed, if change were *of* very Form into very Form instead of being simply *from* Form to Form, the whole universe would hoist itself all at once from rung to rung of the ladder of existence, and would kick away each rung successively from beneath its feet. It seems impossible, then, not to assume a substratum or material of some sort that does the changing and assumes first one Form and then another.²⁹

Moreover, every sensible substance may become a number of different things. The bronze is a potential tripod, or mirror, or door, as well as a potential statue. The leaf may turn yellow or red instead of brown, after being green. Here, again, we would seem forced to assume in the bronze or in the leaf some sort of stuff that is as capable of becoming a tripod as a statue, or of turning red as easily as it does brown. And if we carry the idea to its logical conclusion we cannot escape arriving at the notion of a single, undifferentiated Potentiality or Matter underlying the basic *actual* material elements, and lending itself with equal complacency to any and every Form whatsoever.³⁰

But inevitably as we seem forced to such a conclusion, it proves quite untenable when we reach it. In the first place, how can such a Matter be conceived as *existing*? All existence must be determinate, must have Form, whereas Matter by definition is formless.³¹ Furthermore, a potentiality or stuff of this sort, or rather of no sort, cannot even be conceived, since it is the absolute zero of all that makes thought and knowledge possible. At the best, we can have of it only the "bastard" or illegitimate concept—the self-contradictory sense of something remaining after you know everything has been taken away—in which Plato had to seek refuge when he tried to set forth his theory of Matter as absolutely empty space. Certainly, then, it would have been absurd for Aristotle to talk of Matter as a self-identical, uniform and homogeneous principle underlying all Forms, when he had himself spoken of it as absolutely without form or genus, and had implied that it lacked any

²⁹ *Met.*, XII, 1, 1019b, 3 ff.

³⁰ For Aristotle's doctrine of "prime matter" and references *cf.* Zeller, *op. cit.*, I, pp. 349–350; Ross, *op. cit.*, p. 73.

³¹ *Cf.* Ross, *op. cit.*, p. 66.

one Form of its own to preserve or any thread of self-identity on which different Forms might be strung.

It is not to be wondered in these circumstances that Aristotle pays little attention to "prime matter."³² Being a "bastard concept" and the offspring of intellectual impotence, its presence put the mind to shame and was a reproach to any self-respecting system. The less said about it the better. The only Potentiality that could be recognized as legitimate, the only Matter that really "mattered," was the potential, material *relation* that we found in every sensible object. All things were potentially something else, and material for something else. But this relation had a different base and a different starting point in different objects. It did not require or point to the existence of a single stuff underlying them all. "Different things," we are told, "have different matter . . . different things come from different things," and the things from which they come are the matters of which they are made and the potentialities that render them possible.³³ Although the Form, or nature, of bronze cannot become the Form, or nature, of the statue, it is nevertheless real *bronze*, and not merely the underlying tin and copper, that is the substratum of the change from one to the other and the stuff of which the statue is made. Although greenness does not become brownness when the leaf turns, the substratum that gives up being green and takes on being brown is not something in itself neither green nor brown, indifferently putting off one color and putting on another. It is the actual green leaf. In short, the substratum of any change is always an *actual* object, an individual realization of potentiality, regarded under its twin aspect of potentiality for further realization. It is the *whole* object, the compound of Form and Matter, and not its Matter alone, that is the stuff that becomes something else. Since, then, it is always Matter *in and with a specific Form* that is the timber out of which the next stage is built, there will be as many substrata, as many potentialities, as many raw materials, as there are varieties of finished products and actual states of being.

At this point we should expect Aristotle to go still further

³² Cf. Ross, *op. cit.*, p. 168.

³³ *Met.*, XII, 2, 1069b, 24 ff.

and maintain that there are as many substrata and potentialities as there are individual things. Each particular object, it might seem, in actualizing potentiality realizes not only the Form of the species to which it belongs but an individual nature or Form of its own. There ought to be a Form of John Smith and a Form of Tom Brown as well as a Form of Man. And each blade of grass, even, has a distinctive nature. Indeed, every individual object may be conceived as having a little, absolutely private species of its own, which it shares with nothing else, and of which it is the only example. In other words, in the Aristotelian system we might expect Form to be the principle of individuation.

But there is also another way of looking at the subject, to which, on the whole, Aristotle seems more inclined. All individuals of a given species may also be regarded as merely different and not wholly successful attempts on the part of Nature to enact the Form of the species in question. You and I, for example, and that which makes you different from me, are only incidental by-products of Nature's main business, which is to dramatize perfectly the Form of man. If that be true, our separate individualities are at the best accidental rather than essential to her processes. But even such an interpretation is too optimistic. We cannot long avoid the suspicion that our separate individualities are really signs of Nature's weakness, rather than unimportant by-products of her strength. For each of us actualizes human traits and virtues that the other fails to attain, and hence our individual characters are more a mark of unrealized than of realized possibilities.

Our apparent possession, then, of so-called individual Forms means really that each one of us lacks in some respect the Human Form in its entirety. It is a sign, not of our having attained a more complete and distinct actualization than the general Human Form can bestow upon us, but of our still being capable of further formulation along general human lines. If Nature were so constructed that she could completely realize the Form of Man in a single instance, a single instance would suffice for the enactment of the Form. There would be only one individual man in existence, and he would be a perfect and

exhaustive embodiment of all that goes to make up human nature.

If we look at things from this angle, which seems to be Aristotle's angle of approach, the principle of individuation will appear to be bound up with Potentiality rather than with Actuality. The universe, we shall say, contains more raw material suitable for finishing in a certain way, more possibilities of becoming a given Form, than any single finite existence can exhaust. And it will be this superabundance of Matter and Potentiality, rather an infinity of individual Forms, that gives rise to the multitude of particular objects of all sorts and makes literal "hash," in more ways than one, of the sensible world. Form will be responsible only for the plurality and diversity of types embodied in the structure of the universe. For the existence of many different instances of all types save God—and even with God Aristotle was to have his difficulties—we must look to Matter.³⁴

Still, when all is said and done, the point is by no means clear and has always been a bone of contention among scholars. And the status to be assigned to Forms of individuals, and the question of the relations of such Forms to universals and to Matter have raised difficult and much discussed philosophic problems.

To return, however, to the question of Form and Matter in general. Had Aristotle been an American, he might have given a final illustration of his meaning, and at the same time have driven home what he conceived to be the main difference between himself and Plato, by drawing an example from a simple substance of universal appeal and consumption like ice-cream. Ice-cream, he might have said, can be served frozen in many different shapes. It can come to the table moulded like a fish, a rabbit, a sheaf of wheat, a bunch of grapes, or what not. These shapes are the impress of external forms made of some rigid, changeless, alien substance like tin. And by being impressed upon ice-cream, they do not in any way affect the nature of the stuff itself. Ice-cream has the same recipe and is just as digestible and just as nutritious when it is shaped like a rabbit as when it

³⁴ For a discussion of the Aristotelian principle of individuation *cf.* Ross, *op. cit.*, p. 170; Zeller, *op. cit.*, pp. 369 ff.

is shaped like a bunch of grapes. Nor are its intrinsic qualities or its recipe in any way altered if we dish it out of a wheat-shaped into a fish-shaped mould. It is one and the same ice-cream in whatever form it is served.

The Platonic universe, he might have continued, seemed to him to be something of this sort. In it all changing, sensible objects had one and the same substratum. And their apparent change came from this substratum imitating or participating in first one Form or Idea and then in another. But these Forms were separate from the substratum, were made of a different substance from it, and were impressed upon it from without. And their impression in no wise altered the nature of the substratum as such.

This, however, was tantamount to denying that qualitative change really took place, and that the potential could really *become* actual. For if, when such change and becoming seemed to occur, all that really took place was a new actualization of the same old potentiality, or the passage from one Form to another of the same old material, then obviously the potential as such did not really *turn into* the actual, nor was one substance really *transformed* into another. One and the same stuff merely took on one shape and then another, had first a potential *appearance* and then an actual *appearance*. But these shapes or appearances were wholly superficial, since the nature of what changed was not itself changed by the alterations it seemed to undergo, but remained identical throughout them all. Change, then, would be change of external semblance, not of intrinsic and essential quality or nature.

But now let us look at our ice-cream in another light. Let us assume that the different forms in which it comes to the table are not impressed upon it from without by external tin moulds, but are shaped in it from within by crystallizations essential to the process of freezing. Let us assume, furthermore, that the particular form in which it is served really does affect its *recipé*, its nutritiousness, and its digestibility, or, in other words, its capacity for being transformed into human flesh and blood. Suppose that in the shape of a fish it proves better food than when crystallized in rabbit form. Suppose

even that served as a bunch of grapes it is highly poisonous, whereas in the form of a sheaf of wheat it is greedily assimilated by the most delicate digestion. In that case, the shape in which it appears will make it a completely different thing so far as the digesting stomach is concerned. And the change from the crystallization represented by one Form to that represented by another will effect *essential* alterations in its substance, so essential in fact that to talk any longer of the different forms as forms of the *same* ice-cream, or to speak of its successive crystallizations in different shapes as a passage of the *same* ice-cream from one shape to another, will be sheer mockery. Indeed, it will now be the "one and the same ice-cream" aspect of the stuff, not the rabbit or the bunch of grapes, that is the non-essential and superficial aspect of ice-cream as such.

This second set of meditations upon ice-cream, Aristotle might have felt, adequately exemplified the corrections he was trying to apply to the Platonic theory. His Forms were no less fixed and unchanging than Plato's, since, after all, the rabbit-Form, the fish-Form, the bronze-Form, or the human Form, whether they were external moulds or internal structures, were what they were and nothing else, in all times and places and to all eternity. But the Aristotelian Forms had no separate existence apart from the world-process, as the Platonic Ideas had. They were not made of a different substance from the things that embodied them. They were not tin gods. On the contrary, they were successive crystallizations of the world-process, expressive of its proper nature, not of a nature outside it. Moreover, they were so deeply immanent in it that they clove to its very bottom and made even the substratum of the process multiple. They left no single homogeneous stuff to underlie them. Each Form connoted a different substratum and a distinct Matter.

Regarded in their dynamic aspect, as potentiality to be actualized and actualization of potentiality, Matter and Form evinced the same unity. A thing's Form was part and parcel of its capacity for digesting or for being digested by something else. The character a thing possessed carried with it a power to undergo certain changes. But this power was limited

and definite, and differed in objects of different kinds. Bronze could not become a monkey. A lamb could not feed upon and assimilate a lamb. Though straw was good material for bedding horses, it was poor fodder for them. And search as we might, we could never discover anything—unless it was prime Matter, which was undiscoverable—that had the power of becoming everything.

There was, then, no such thing as a general reservoir of Potentiality underlying and separate from all Forms. Nor were the actualizations involved in change mere surface ripples of a principle whose depths no process of becoming could touch or stir. On the contrary each Form connoted a distinct and separate possibility of becoming. Any given actualization of the potential meant also the creation of a new potentiality. Change from Form to Form denoted an equally real change from the definite and limited possibility of becoming one thing to the definite and limited possibility of becoming another. It was a change from Matter to Matter as well as from Form to Form. In all change, alteration, motion, and becoming there was an actual transmutation of one stuff or substratum into another, as well as a substitution of one Form for another, when the surface transition from Form to Form, visible to the naked eye, took place.

The conclusion was clear. The testimony of the dynamic aspect of Form and Matter corroborated the evidence drawn from their static relations. From every point of view it was the "one and the same matter" aspect of Matter that turned out to be superficial and non-essential. That aspect, to be sure, caught the eye and looked plausible. But it would not stand up under analysis. And when it was disintegrated by reason, its dissolution went far deeper than any Atomistic division of matter into a multitude of qualitatively similar particles could go. Qualitative similarity was destroyed as well. Matter was as varied as Form.

It was a pity, of course, so far as the advance of science was concerned, that Aristotle upheld the supreme reality of qualitative transformation and resisted the efforts of Leucippus and Democritus and their disciples to explain all difference and

change of quality in terms of simple change of position and different geometrical arrangement of homogeneous atoms. The point of view developed by the Atomists proved infinitely fruitful and became an indispensable stepping-stone in the progress of physics and chemistry. But its adoption and its fruition were delayed for nearly eighteen hundred years, thanks largely to the authority of Aristotle's opposition, coupled with that of his devotion to final causes as scientific explanations.

But Aristotle's objections were too stubborn and deep-rooted to be overcome. The relations between the actual and the potential had absolutely committed him to the thoroughgoing reality of qualitative change.³⁵ Moreover, the Atomistic position was undermined, in his opinion, by the impossibility of dividing matter into *indivisible* particles like the atoms posited by Leucippus and Democritus. And again, apart from this difficulty, he felt that the Atomists took movement in space too much for granted, and failed to give a satisfactory explanation of its real nature and causes.³⁶ That change of place was indeed a least common denominator for other kinds of change and was inextricably bound up with them, he had no desire to deny. Change of bulk obviously involved spatial movement, and the shifting of superficial and non-essential sensible qualities in a body meant an alteration of spatial relations. Even the profound alterations involved in coming to be what one was and in passing out of being were attended and conditioned by locomotion. So far, Aristotle saw eye to eye with the Atomists. But had he not also shown to his own satisfaction that change of place, like all other change, was at heart an actualizing of the potential, and that its true cause was to be found in the purpose it subserved and the end at which it was aimed, rather than in any mechanical shove given by antecedent events? This definition, with all it upheld, stood firm, and the supreme reality of qualitative change remained a fact.³⁷

³⁵ For an exposition and discussion of Aristotle on the reality of qualitative change, cf. Zeller, *op. cit.*, I, pp. 450-458.

³⁶ For Aristotle's objections to Atomism and the mechanistic theory of his time, cf. *Met.*, I, 4, 985b, 4 ff., 7, 988b, 20-999b, 30; XII, 1071b, 31 ff.; also Zeller, *op. cit.*, I, pp. 307, 445 ff.

³⁷ Cf. Ross, *op. cit.*, p. 83; Zeller, *op. cit.*, I, pp. 422 ff.

There is one point which, although it must have been sufficiently borne in on us by this time, may be given an extra accent in order to dispel any lingering difficulties. Aristotle obviously does not mean by *Matter* what we mean by the term. He uses it in a far wider and more profound sense. To us the first connotation of the word is physical. Matter, we say, is essentially corporeal. But to grasp what Aristotle has in mind we must rid the term completely of all physical associations. Matter, in the Aristotelian sense, is not the extended, solid stuff that strikes the senses at every turn. Nor is it the more refined material that the physicist touches in his laboratory with his instruments and envisages with diagrams and formulae. Certain kinds of Aristotelian Matter are indeed extended and corporeal, but physical qualities do not exhaust *material* character as such and are not essential to it. That character will be found in anything that is good *timber* (the original meaning of the Greek for "matter") for something else, whether that timber be what we should call physical, or mental, or moral, or spiritual. All is grist, be it a body, a sensation, a thought, a disposition, a virtue, or a beauty, that in the mill of becoming can be ground into some further form.

For example, if our hypothetical calf that was beefsteak to itself existed, it would be absolutely *immaterial* in Aristotle's eyes. For it would realize all the possibilities of its nature within itself, and would need neither grass from below nor butcher from above to support or justify its self-sustained, self-contained activity of being beefsteak. It would be beefsteak to itself and to nothing else, and hence would be matter for nothing else, and at the same time a thing for which nothing else was matter. It would then fulfil the definition of pure Form without Matter. And yet, to be slightly inexact for the purpose of driving the point home, this calf might frisk and frolic, though not feed, in any pasture, and might butt with a good thousand pounds of all too solid flesh anyone who scoffed at its immateriality on the ground that pure Form must be a spirit.

We have of course overstepped the bounds of the illustration. A butting calf would not impart motion, unmoved itself, as pure Form must do. And even frisking and frolicking would betray

a capacity for "whence and whither," and a streak of unrealized potentiality, that would degrade it to the level of the stars. To be pure Actuality, our calf would have to stand stock-still, placidly ruminating upon its own perfection. Moreover, in the world of hard fact and not of fancy, every Form of *physical* being has, just by virtue of its corporeal qualities, to actualize and live on possibilities provided by other Forms. And it must also provide potentialities that it cannot actualize itself, the full value of which it takes another Form to realize. Everything physical "matters" in the eyes of something else. All corporeal entities have, then, for Aristotle, Matter in his as well as in our sense of the word, and all physical body is metaphysical Matter as well.

Still, joking aside, the illustration may serve to adorn a tale, and probably to point half a moral. In any case, the other half can be pointed in a way to which Aristotle could take no exception. Courage, good judgment, quickness of thought, and the like are what we should call immaterial and spiritual. And yet for Aristotle they would be timber, stuff, and matter for a football team. Or again, in Aristotle's scheme, not only is the soul the actualization of the possibilities provided by a living body, but within the soul itself the psychic function or quality of life is potentiality, or, in other words, matter, for the psychic activity of sensation.³⁸ And the mental images provided by sensation, which we should call immaterial, would seem in their turn to constitute a potentiality or material utilized by the lower processes of thinking about things and puzzling towards conclusions.³⁹ Finally, even within human reason itself, there is potentiality, and hence matter in the Aristotelian sense, in the shape of a passive as contrasted with an active element.⁴⁰

We may have laid needless emphasis upon the point. After all, we too are in the habit of using the word "matter" in the Aristotelian sense, as when we call human emotions, passions, and ideals good material for a novelist, or when we talk of a

³⁸ Cf. *De Anima*, II, 2, 414b, 1128 ff.

³⁹ Cf. *De Anima*, III, 2, 427b, 11, 14-16; 7, 431a, 16, 431b, 12, 431a, 16, 432a, 7-14; Ross, *op. cit.*, pp. 148, 153.

⁴⁰ Cf. Ross, *op. cit.*, pp. 178 ff.

man's being good "stuff" for the Presidency. If only we will remember that this sense, which has become derivative for us, was primary for Aristotle, and will let it come first to our minds and remain uppermost there while we are dealing with him, we shall avoid much confusion.

CHAPTER IV

THE ARISTOTELIAN PHYSICS

THE irreducible remnant of Potentiality that lurks in all physical bodies as such, and hence the link between physical matter and Aristotelian Matter would seem to lie in the spatial aspect of everything corporeal. For example, the heavenly bodies, as we may recall, are exempt from alternation and qualitative change. They never came into being, never will pass out of it, and are world without end the same. Within them there is nothing "going on," no passage from Form to Form, no process of actualizing potentiality. But they are not pure Form and not wholly immaterial because they still possess potentiality in the shape of a capacity for "whence and whither." This capacity is due to the fact that they have "position" or "place." For several different bodies can be conceived as successively occupying the same place,¹ and hence anything that has "position" is conceivably removable from that position, or in other words is possessed of a capacity for movement. To be actually in any one place, then, means to be potentially in some other.

But what is the "place" a body occupies? It is defined neither by the shape of the body nor by its physical matter, for it is separable from the body and does not move with it. Moreover it seems to *contain* things and hence to be larger than the things it contains. A body is said to be *in* this or that place. But *where* a body is is not therefore to be delimited by the interval that separates it from the remaining bodies. This interval may vary, but the position of the body does not vary with it. At the same time, place is a relative thing. Aristotle is not concerned with an absolute space supporting an absolute set of fixed positions.² And his final solution of the problem is

¹ *Phys.*, IV, I, 208b, 1 ff.

² Cf. Ross, pp. 86-87.

that *where* a body is is defined by the inside of the envelope of bodies containing it. Its place is the hole in the doughnut of the surrounding world. But what constitutes the inside of the envelope and bounds the hole in the doughnut must be determined by the nearest *stationary* surroundings. The whereabouts, for instance, of a boat afloat on a river is not fixed by reference to the moving current, but by reference to the banks of the stream.³

Since a place must have surroundings, the universe as a whole has no place. Although it is a globe, its spherical body cannot be conceived as contained or afloat in anything outside itself. A ball of space existing nowhere and with nothing surrounding it is a puzzling idea, but it is really no more baffling than our popular notion of space as something that stretches away to infinity in every direction. And it is interesting to see that the Aristotelian view has been revived, with many new trimmings of course, by some adherents of that last word of modern science, the theory of relativity.

Furthermore, says Aristotle, there can be no such thing as *empty* space, or in other words a space existing in and for itself apart from the bodies occupying it. To prove this he leaves no stone unturned, doubtless because of the popularity at the time of the concept of the Void, sponsored by Leucippus and Democritus. His argument is too long for us to follow in detail, but we may note certain of its more familiar features. Thus, he contends, there is nothing to the Atomists' contention that a body cannot move without empty space to move in, since bodies can shift their positions and crowd one another out of their places without leaving any space unoccupied in so doing. Moreover, if bodies did move in a void, their movements, encountering no resistance, should be, he thinks, instantaneous and occupy no time, and the velocities of all bodies, great and small, should be equal. Again, body is really extended in itself, and its extension needs no second extension outside the first in which to stretch out. To be sure, the capacity of the same body to contract and expand and to become denser and rarer might seem an argument to the contrary. But this is not so,

³ Cf. *Phys.*, IV, 1-4; Ross, *op. cit.*, pp. 85-87; Zeller, *op. cit.*, I, p. 432.

since it is just as much part of the potential character of Matter to be able to become a larger or a smaller thing as it is to be able to become one thing rather than another. And for this increase or decrease in size or density its own extension is sufficient. Finally, the concept of the Void is riddled with the same difficulties as beset that of the Infinite.⁴

An infinite spatial magnitude or body is, Aristotle feels, impossible of conception. In the first place, it is impossible to think of a body without a boundary, or of the universe except as a completed, and therefore finite, whole. Again, anything infinite could not be located anywhere, or display any spatial relations like up and down, right and left, centre and circumference, and the like, or move in any direction. Furthermore, if an infinite body were compound, at least one of its constituents would have to be infinite, since the infinite could not be composed of the finite alone. But any element which existed along with and beside others could not be infinite. Then, too, no matter how compound it was, or with how many elements or parts you started, you would find that you could always add these factors together and achieve a definite number as a result. The sum total, that is, of no matter how many parts would always be finite. On the other hand, one infinite simple element or body at the base of all things would be unthinkable, because its absolute simplicity could never give rise to variety of any sort. Moreover, observation shows that as a matter of fact many elements exist.⁵

From another point of view, however, there is a germ of infinity with which all spatial magnitudes are infected, although the disease must always remain latent and can never fully develop. Start *dividing* the parts of a spatial magnitude and the case is altogether different from that of addition. For you will then find that you can never reach any sum total. There is no end to the parts into which a body may be broken up. It is always possible to go on *ad infinitum*. In this respect, then,

⁴ Cf. *Phys.*, IV, 6-9, 213a, 10-217b, 25; Ross, *op. cit.*, pp. 87-89; Zeller, *op. cit.*, p. 432.

⁵ Cf. *Phys.*, III, 5, 204a, 8, 206a, 8; *De Caelo*, I, 5, 271b, 26 ff; Ross, *op. cit.*, pp. 83-85; Zeller, *op. cit.*, I, pp. 427 ff.

spatial magnitudes suffer from a suppressed or potential infinity, which can never become actual and be wholly expressed. To sum up, spatial magnitudes are finite, both potentially and actually, with respect to addition, and infinite potentially but not actually with respect to division.⁶

From a consideration of the spatial aspect of the world we pass almost instinctively to an inquiry into the nature of time, which shares the same Procrustean bed of "long" and "short," "big" and "little," "before" and "after," "near" and "distant," and is of much the same size and disposition as its fellow. What, then, is the common necessity which has thrown them together, and what is the link between them? The answer is, Motion. Just as there can be no space that is not occupied by bodies, and no movement that is not motion of bodies from place to place, so there can be no time that is not occupied by events and in which movement is not going on. For when we lose consciousness of change and motion, as in sleep, we lose consciousness of time also. Moreover, it is change that makes one moment different and distinguishable from another, and thus enables us to talk of time passing and of one event following another. Conversely, there can be no perception of movement into which time is not interwoven.

But although they are inseparable, time and motion must not be identified. They differ in important respects. Movement and change inhere in particular bodies, take place where those bodies are, and may differ in velocity, whereas time is not localized and uneven, but is everywhere and in all things, and never varies its pace.

To explain this mysterious play of Box and Cox, we must return for a moment to space. Motion, as we have already seen, involves change of place. Space, however, is continuous, and hence in passing from one point to another a body must traverse all the intervening points. This means that any position from which a body departs may be always described as just *behind* or *aft* of the position at which it next arrives, and that its new position is just *in front* or *forward* of its old. Move-

⁶ *Phys.*, III, 6, 206a, 7-207b, 20. Cf. Ross, *op. cit.*, pp. 84-85; Zeller, *op. cit.*, I, pp. 427 ff.

ment, that is, reveals a relation of *fore* and *aft* between adjacent points in space. Without this sense of fore and aft there could be no awareness of movement.

But now, when motion shows that adjacent points in space are *behind* or *forward* of one another, it does so by introducing a new, non-spatial element into their relations. It makes the point left behind an *old* point, the forward point a *new* point. It turns our *fore* into a *before* and our *aft* into an *after*. All the positions in front of a moving body necessarily belong to that body's future. Otherwise, they could not be described as in front of it. And all the positions behind it are also in the *past*, for otherwise they could not be called even spatially behind. Motion, then, takes *time* to take place. *Now*, we say, a thing is *here*, now it is here, now it is here, matching our succession of spatial points with temporal instants. But when we do this, we are simply counting out the positions the moving body occupies—"one," "two," "three." The instant of time is merely the beat of the count as the motion goes from aft to fore and turns fore into aft. If, however, we compare two moving bodies, we find that the number of "nows" sufficient to count the movement of one body is often either too great or too small to match a similar movement of the other. In that case, we say that one of the bodies is moving slower or faster than the other, or that one movement is greater or less than another in point of velocity.

But the shading of one "now" into another does not vary. That by which we measure velocity is not itself now longer, now shorter. It is not time but what goes on in time that moves slower or faster. Again, time like spatial magnitude cannot be divided into ultimate, separate units. Like space it is continuous, not discrete. But unlike space it is not finite with respect to addition. No finite sum of the instants that have passed, or of those that are to come, can ever be computed. Time is everlasting, without beginning or end. Furthermore, in a sense the instants of time are identical. The content, to be sure, is always different. Each new beat accents a shift of scene. But each new content is "now," and that sense of "now" is continuously and without interruption present to the mind.

The "now," we might almost say, is the persistent screen on which the succession of events appears.

Plainly, however, we could not count "now," "now," "now," "one," "two," "three," as the moving picture varies on the screen, or compare the movements of its component parts, were it not for number. For it is by number that we measure the more and the less, the faster and the slower, the different amounts of space covered in the same time, and the different amounts of time it may take to cover the same space. Time, then, we may say with Aristotle, is *the measure or "number of motion in respect of 'before' and 'after.'"*⁷

Nevertheless, time is no more to be identified with number than it is with movement. It is rather an application of number to movement. It is rooted in what is counted, not in the mathematical entities that we use in counting. This application of mathematics to motion is obviously made by the mind, so it becomes an interesting question whether time would exist in the absence of a mind to do the counting. Motion from spatial *aft* to *fore*, Aristotle seems to think, might go on, but in the absence of mind it could not acquire the significance of *before* and *after*.⁸

We turn now to consider the different kinds of locomotion, and to ask what is their ultimate cause. All change of place, as we have seen, conforms to the definition of change in general as an actualization of the potential and the realization of an end. And we have already noted that movement in space is involved in such different mobile aspects of the universe as change of quantity and shift of surface quality, and is associated even with alteration of essential form. One other general characteristic of locomotion may be touched on at this point. Change of place is the only kind of change that can be conceived as unbroken and everlasting. For space is continuous, and in it a trajectory may return upon and repeat itself, whereas the transition from Form to Form involved in qualitative change has a *terminus ab quo* and a *terminus ad quem*. Even then it is

⁷ *Phys.*, IV, 11, 219b, 1; 320a, 25. The italics are mine.

⁸ For Aristotle on Time cf. *Phys.* IV, 11-14, 218b, 20, 224a, 15; Ross, *op. cit.*, pp. 89-91; Zeller, *op. cit.*, p. 433.

not a through process, but a way train stopping all along the line at each new actualization, and starting again from the new potentiality each new actualization affords.

Locomotion, however, is itself not simple but complex, and is not always continuous. There are three kinds of spatial movement; movement in a straight line, movement in a circle, and movement resulting from a combination of the two. Rectilinear movement is natural to the four elements, earth, water, air and fire, of which all things terrestrial are composed, and is expressive of their innate tendency to return to their proper places in the universe. It is the nature of earth and water to proceed towards the centre of the world, of air and fire to proceed towards the circumference.⁹ Upon these opposed tendencies our distinctions of up and down, high and low, light and heavy, rising and sinking, are founded. Were the elements able to carry out their native impulses, free themselves from one another, and return altogether to their proper spheres, their rectilinear motions would cease and the distinctions founded on such movement would disappear.¹⁰ We shall see in a moment what interferes with their natural tendencies and keeps them in a state of turmoil.

Clearly, since the world is not infinite, every rectilinear movement and every motion in which rectilinear movement is admixed must have a starting point and an end. It cannot therefore be continuous. Clearly, too, no motion of this sort starts or stops of itself. It is pushed or pulled into being by some other movement and is sooner or later arrested by counter-action. Hence it is neither self-initiating nor self-perpetuating. Nor can we find any first, unpushed push to set the series going, however far back we go.

Movement in a circle, which occurs only accidentally on earth, is native to the heavenly bodies. Aristotle, we may remember,¹¹ seems to have thought at first that this motion was due to the free activity of the star-gods, but to have eventually concluded that it was the natural movement of the aether of which the celestial spheres were composed, just as rectilinear

⁹ *De Caelo*, IV, 2-3.

¹⁰ Cf. Taylor, *op. cit.*, p. 61.

¹¹ Cf. *supra* p. 35.

motion was indigenous to the other four elements.¹² In rotation we have at last the only form of change that can be conceived as regular, self-perpetuating, and everlasting. Its direction and rate are uniform if it is left to itself. It involves no displacement of its centre, and hence in one sense not even any change of place. Again at whatever point you may choose to regard one cycle as completed, you will find that another has been begun, so that there is no reason why rotation should ever stop. All in all, then, being purged from every possibility of changing quality and of slowing down or halting, rotation is the perfect movement. It is the movement that unites ceaseless motion with unbroken repose in the same place, and that comes nearest to being a self-sustained and self-satisfied activity.¹³

The belief that the heavenly bodies moved in perfect circles was not original with Aristotle. It was the common astronomical view of his time. But it was also a matter of common observation that the celestial movements as they appeared to the eye were far from having the uniform speeds and directions that the theory of circularity required. Fact and hypothesis, then, seemed to be at odds and had to be reconciled. Faced with the question, contemporary astronomy had shown extraordinary ingenuity. In particular Eudoxus of Cnidus, whom we may remember as a fellow-pupil of Aristotle's at the Academy, had solved the problem brilliantly by means of a theory of component motions. Assume, he said, that a given body revolves about the earth in a circle, and that the orbit it describes is itself rotated as a whole about the same centre like a hoop that is both revolving and also rotating sideways on its own axis. Suppose, furthermore, that this double movement is turned over and over in some third direction, but still about the same centre. Eventually we might perhaps construct in theory a number of concentric circular movements, and work out directions and velocities for their rotation, from which we could deduce a component that would be the observed irregular move-

¹² Cf. Jaeger, *op. cit.*, pp. 155 ff.

¹³ On circular motion cf. *Phys.*, VIII, 7-9; Zeller, *op. cit.*, I, pp. 440-441.

ment of the body carried in this complicated system. Applying this idea, Eudoxus calculated with great ingenuity that the behavior of the sun and the moon could be explained on the hypothesis of three of those hoops of motion, and that the orbits of each of the planets could be regarded as the component of four. The mass movement of the whole heaven of fixed stars, he thought, could be accounted for by its own immediate, single rotation.

Upon an amplified and more complicated version of this theory, proposed by the astronomer Callipus, Aristotle seized. And once grasped by him, the mathematical assumptions and formulae were precipitated into solid, physical fact. The hypothetical "hoops" of motion became a system of "wheels within wheels," or rather of hollow sphere within sphere. The result was a "nest" of hollow globes composed of aether, enclosed one within another after the fashion of the "nests" of boxes with which we are all familiar. At the centre of this nest lay the solid ball of half-mixed, half-separated earth, water, air, and fire that formed our globe and the layer of atmosphere separating it from the aetheric shell in which the moon was carried. At the outer circumference revolved a sphere studded with all the "fixed" stars, which seemed to move as one and in invariable relations to one another. Between, whirling every which-way, came the other spheres, with here and there, in the globe indicated by the hypothesis, the planets and the sun and the moon imbedded.¹⁴

The rotation of the heaven of fixed stars communicated its motion by immediate contact to the sphere next within it, and so on throughout the entire system, and carried the whole nest in a regular daily revolution about the earth. This initial movement was modified in various ways by the directions and speeds peculiar to the individual rotations of the inner spheres. To explain the observed movements of the heavenly bodies, now complicated by the direct transmission of motion through the friction of one shell of aether upon another, Aristotle had to raise the number of inner globes to fifty-five. These survive to-day in the "crystalline spheres" and the "music of the

¹⁴ Cf. *De Caelo*, I-II.

spheres" of our poetry. And with various connections and readjustments culminating in the system of the Alexandrian scientist, Ptolemy, they remained in principle the basis of our astronomy for nearly two thousand years. Indeed, the theory of component circular motions which they embodied survived even Copernicus's revolutionary hypothesis of the double movement of the earth upon its axis and about the sun, and was not finally discarded till Kepler early in the seventeenth century discovered that the planets, including now the earth, move not in circles but in ellipses.

From what we have said, it will be seen that Aristotle wanted to regard the heaven of fixed stars as the physical source of all the motion within the universe. It was for him the primary moving body, and its rotation, transmitted through the other spheres, made itself felt throughout all material existence. Unfortunately, however, for the clearness of both his physics and his theology, its motion could not account for the oblique and even contrary rotations of the inner globes and for their different speeds. To the theological dilemma occasioned by the astronomical necessity of assuming these independent directions and velocities we shall return later. For the moment we are concerned only with the results of the modification of the original impulse by the wayward rotations of the spheres responsible for the orbits of the sun and the moon.

This modification is the immediate cause of all the confusion and variety of events that happen upon the earth. Without it, the four terrestrial elements would have been from the beginning in their proper places. The sphere of the moon would have enclosed a whirling shell of fire, the fire, a shell of air, the air, a globe of water, and the water, a compact ball of earth. In fact there would have been fifty-nine inner spheres instead of fifty-five.¹⁵ As it is, however, the wobbling of the sun from north to south along the path of the ecliptic prevents the elements from separating or from massing at their natural positions. Hence it is the cause of the commingled and unsettled situation without which the whole physical structure of our world and the variety of motion, activity, and life it supports

¹⁵ Cf. Ross, *op. cit.*, p. 97.

simply could not exist. Furthermore, the behavior of the sun is immediately responsible for the alternations of the seasons, for variations of hot and cold and for "weather" in general. And finally it instigates and controls even the great rhythm of growth and decay.¹⁶ All in all, since the compounding of the rotation of the heaven of fixed stars with that of the solar and the lunar "nests" of spheres keeps the entirety of our physical and biological phenomenon going, the movement of the outer heaven is the original physical cause of terrestrial activity of every sort.

Still, quite apart from the perplexities raised by the independent movements of the inner spheres, Aristotle's troubles were by no means over. Circular motion might be the perfection of all movement. It might be self-perpetuating and everlasting in character. It might contain no point at which one could say it began or ended. But one was bound, nevertheless, to ask why it existed. Its very perfection betrayed, upon examination, its dependent character. Its endlessness sprang not from rest but from restlessness. Its unbroken, unstarted, unstopping return upon itself and repetition of itself proved to be a mere whirling round and round from "whence" to "whither" in pursuit of some further actualization which it never quite realized. It was not, then, a self-satisfied activity unmoved by anything outside itself. Nor could the rotation of the outer heaven, which embodied this perfect movement, be regarded as the first cause of cosmic motion. There must be a reason, as yet undiscovered, why the revolution of the outer heaven took place.

But if the most perfect form of motion fell short of self-causation and self-sufficiency, all movement was essentially effect, not cause, and nothing that was itself moved could be the reason for motion. The reason had therefore to be an unmoved mover, or in other words something that was not impelled to produce motion by anything outside itself. But it had also to be an unmoved mover in another sense. All exertion of power involved movement and change and realization of undeveloped capacity. The First Cause of motion must, then,

¹⁶ *Meteor.*, I; Ross, *op. cit.*, pp. 107-108.

impart movement without any expenditure of energy on its part. It could not push or pull the outer heaven round by brute force, or so much as twirl it with a touch of any sort, however light, metaphysical, and divine. In a word, the First Cause was not to be conceived as a direct efficient cause. So, quite apart from the impossibility of regarding motion as created, the Mover could not be thought of as a Creator. Its efficiency must be indirectly exercised, as a woman's is when she is most effective. It must make the world move, not by compulsion, but by the influence of an object freely and gladly pursued.

Nay more, Aristotle might have argued, and doubtless would if he had foreseen the Christian doctrine of creation by fiat, an unmoved mover cannot cause the outer heaven to revolve by merely willing it to do so. For will is a composite of unfulfilled desire and of process and exertion moving towards fulfilment. It involves actualization of potentiality. A mover, then, that willed motion to exist would not be unmoved in either of the senses we have been considering. Not only would it be impelled by its wish, but the movement it imparted would be a continuation of the exertion, or, if that be too strong a word, of the process involved in realizing that wish.

Aristotle had now two problems on his hands. In the first place, in order to meet the specifications of an unmoved mover he must find some absolutely self-contained and self-sufficient Form of being wholly devoid of movement, change, desire, will, or other unrealized potentiality of any sort. Secondly, he must be able to show how such a Form of being could account for motion and change without doing violence to the unbroken repose of its own absolutely unmoved nature. The clue to the solution of both these problems he found, not in the upper circles of the universe, but at the very centre of the underworld on the surface of the earth. Here a further study of the process of actualizing potentiality put him on the track of what he wanted. Let us plunge with him from the perfect respectability of the heaven of fixed stars into the confused and turbulent life that goes on beneath the moon, and follow him in his investigation.

CHAPTER V

THE SEARCH FOR THE UNMOVED MOVER

I

THE most primitive actualizations of Potentiality and the earliest forms of Matter, or, in other words, the first actual materials which we can know and deal with, are the five physical elements.¹ Of these the aether is born, so to speak, very nearly perfect, with no other capacity than that expressed in the rotation of the heavenly bodies. But fire, air, water, and earth are in a quite different case. They are, to be sure, simple and irreducible. There is no single, homogeneous physical matter underlying them, as, for example, Leucippus and Democritus taught in the Atomic Theory. Physical matter is not one but many. Still, the four elements can be transformed into and arise out of one another.² And all sorts of things can be made of them and done with them. In fact there is nothing terrestrial into whose composition they do not enter. They have, then, almost unlimited possibilities for further actualization, and are always unconsciously seeking more and more specific self-fulfilment. The result is both an ascending series of forms of being, marked by less and less unrealized potentiality, and a definite movement or world-process tending towards a minimum of Matter (in the Aristotelian sense) and a maximum of Form. This ascending surge of Being from more to less potentiality and from less to more actuality we may call "Nature."

We must be on our guard, however, against any temptation to think of this world-process in modern evolutionary terms. The theory of evolution teaches that species are not fixed but mutable, that some become extinct and are no longer embodied,

¹ For Aristotle on the elements *cf.* *De Caelo*, III, IV.

² *Ibid.*, III, 5-IV.

and that others become enacted or, as we say, come into existence. The theory teaches, furthermore, that the more complicated structures come later than the simpler and are developed from them. But for Aristotle all species are fixed and have been existent from the beginning. The more actual does not come later in the process than the more potential. There never was a time when Nature did not realize all her ends to the extent that she realizes them now, and there never will come a time in which they will be in any way differently or more completely realized than they are at present. The formal constitution of the universe is from everlasting to everlasting the same. The world-process neither lays hold of new forms of existence nor relinquishes its grip on old. It merely keeps a given set of Forms continuously and simultaneously enacted throughout all time.

In short, we have in the Aristotelian system a kind of *static* evolution. All degrees of development are embodied once and for all in the constitution of the universe as it is, but there is perpetual motion from degree to degree, and a perpetual replenishment of the substances exemplifying the higher forms from those exemplifying the lower. We might, indeed, almost liken Nature to a great caterpillar stretched upon an already finished ladder of Forms, standing, clinging, pushing, and pulling upon every rung with its innumerable points of contact and support, while pulse after pulse of movement ascended throughout its entire length and breadth from its less secure to its surer footholds on Actuality.

There is another respect, too, in which the Aristotelian theory must be sharply differentiated from the evolutionary hypothesis. Aristotle's system of development is a *moral progress* from lower to higher, measured in terms of human interests, and culminating, so far as terrestrial life is concerned, in man. Evolution, on the other hand, if we are to be strictly and clearly scientific in our use of the term, is not a progress but a non-moral process which does no more than produce one species out of another. The only permissible measure of advance is the increasing organic complexity of the new species the process brings into existence. But the propriety even of such a stand-

ard is doubtful, since the development of a simpler out of a more complicated species by heredity, environment, and whatever other factors may be at work, would be no less evolution, scientifically considered, than the production of a more involved from a less involved organism.

This point has been much obscured by the appropriation of the term "evolution" by the social sciences. These, being concerned with human welfare, and measuring quite properly the growth of human society by a purely moral yardstick, have restricted their use of the word to cover only such processes as make for an increased order and richness in our life. The appearance in the course of Nature of anything that thwarts or retards the realization of the human good they call regress or degeneration, and regard it as an anti-evolutionary interference with natural processes of development. In fact they merely turn the Aristotelian system of static advance into a temporal sequence, and transform its rigid ladder of Forms into an escalator on which the entire universe is being carried onward and upward forever. This substitution of a motto for an equation in formulating the nature of the world-process has not as yet been universally accepted by scientists. But it has found some favor in popular thought, and as a result the successive modifications of physical, biological, and psychological structure, to which alone the term "evolution" should be applied, have become mythologized in the vulgar imagination as a sort of "uplift," which insinuates itself even into the nebular or the planetesimal hypothesis, and will doubtless in time render the latest formulae of relativity "inspirational."

Let us now pick up the thread of our discourse again. Much of the impulse to actualize the potential does not carry Nature very far. It leads her into blind alleys and ends in substances and situations that, although they are far from being high-grade actualities themselves, do not lead to higher things. For instance, Nature is somewhat restricted in the uses to which her unaided forces can put marble, tin, or copper. And were it not for the fact that she has also produced man and with him art, the possibilities these substances afford for making statues, temples, and the like would remain forever unrealized. But

Nature also produces a large number of substances whose potentialities for further actualization can be realized by her unconscious processes.

Thus, to revert to an old example, she turns earth into vegetable matter, and vegetable matter into animal matter. And animal matter she can cast into the form of a rational being like man. Here we have a long and complete thoroughfare leading straight from the bottom of the world-process to the top, and let us say at once, a thoroughfare that will lead us directly to the nature of the Unmoved Mover.

In the light of what we have just said we see, too, that our ladder of existence is really shaped like a pyramid. Its base is as broad as the general possibility of everything and anything, its top is an apex so pointed that all potentiality is squeezed out of it, and only one wholly actual thing is left. And its rungs, as they narrow progressively, exclude the abortive impulses that end on the lower levels in substances with which natural processes can do nothing more. With the lower rungs, or in other words with the behavior of inorganic substances, we have sufficiently dealt, so far as their philosophical implications are concerned. We have only to add that Aristotle's curiosity left unexplored no nook or cranny in physical phenomena, and resulted in a prodigious accumulation of data that we should to-day distribute among physics, chemistry, astronomy, and mechanics. His keenest interest, however, and the scientific work for which he was most noted were provoked when he mounted one more rung in the ladder and found himself in an organic world of *living* matter. As this was an important step in the game of cornering the Unmoved Mover, let us pause a moment and get our new bearings—and our breath.

II

Life, or Soul as we may also call it, is an actualization by Nature of the organic capacities resident in certain combinations of the four elements. It is, to use Aristotle's own phrase, "the first actuality (entelechy) of a natural body furnished with organs." It is "the first," because, as we shall see in a

moment, the mere fact of being alive enables the organism to exercise higher activities and to proceed to more complete self-realization.³ Its relation to the body may be described as that of cutting to the axe, or of vision to the eye. It is the characteristic function for which the body exists, and from the possession of which we call the body "living."⁴ Generally speaking, life is as impossible without the body, and soul is as inseparable from it, as cutting would be without an axe, vision without an eye, or walking without feet.⁵

This dependence of the soul upon the body for her existence⁶ does not mean, however, that she is a material entity as Empedocles, for example, and Democritus thought.⁷ Nor does it validate the Pythagorean doctrine, already refuted by Aristotle in the *Eudemus*, that she is a kind of Pythagorean "harmony" of the body.⁸ On the contrary, not only is the soul absolutely incorporeal,⁹ but she is more than a mere condition or state of the body, such as a harmony would be.¹⁰ She is the Form of the body,¹¹ and as such is not to be confounded with any of the potentialities that enable her to exist.¹² But, at the same time she is enacted only in and by the body, is one with it, and forms with it a single indivisible living being, just as the shape into which a bit of wax is moulded forms with the wax, not two separate entities, but a single indivisible object.¹³

The connection of the soul with the body is also shown by the fact that almost all our mental states are the conscious forms of physiological conditions. Thus properties of the soul, like courage, gentleness, fear, pity, audacity, joy, love, and

³ *De An.*, II, 1, 412a, 1. Cf. Ross, *op. cit.*, pp. 134-135.

⁴ *De An.*, II, 1, 412b.

⁵ *De An.*, II, 1, 413a, 4 ff.; *Gen. An.*, II, 3, 736b, 22 ff.

⁶ *De An.*, II, 2, 414a, 12 ff.

⁷ *De An.*, I, 2, 403b, 28 ff., 404b, 8 ff., 3, 406b, 15 ff., 5, 409a, 409b, 23 ff.

⁸ *De An.*, I, 3, 404a, 21 ff., 4, 408a, 30 ff.

⁹ *De An.*, II, 1, 412a, 15 ff.; *Part. An.*, I, 1, 641a, 14 ff.; *Gen. An.*, II, 4, 738b, 26 ff. *Met.*, VIII, 3, 1043a, 35.

¹⁰ *De An.*, I, 4, 407b, 408a, 30.

¹¹ *Met.*, VII, 10, 1035a, 14 ff., 11, 1037a, 5; VIII, 3, 1043a, 35.

¹² *De An.*, II, 2, 414a, 12 ff.

¹³ *De An.*, II, 1, 412b, ff.; *Met.*, VIII, 6, 1045b, 11 ff. Cf. Ross, *op. cit.*, pp. 132-133.

hate, are dispositions of the body.¹⁴ Still, Aristotle admits, there may be a part of the soul that is not the actualization of capacities inherent in the body, and if such a part exists it will be separable and independent.¹⁵ The study of such a part, however, would not belong to psychology but to metaphysics.¹⁶ Even this retention, however, of a separable part of the soul, cannot prevent us from realizing how far Aristotle departed, as he worked out his theory, from the views he held in his youth and set forth in his dialogues.¹⁷

If the soul is one with the body, she is still more a unity in herself. Although she has various functions and faculties,¹⁸ she is not divided up among them. She is present in her entirety in all her activities.¹⁹ Even the three kinds of soul, which we are about to discover, are not three souls but one soul, in spite of the fact that they are quite distinct and that the lower may exist without the higher. They represent progressive actualizations of one and the same principle.²⁰ In short, in dealing with the tripartite division of the soul, we have on our hands the same delicate problem as taxes the balance and the agility of the Christian theologian when dealing with the Godhead—the problem of neither dividing the substance nor confusing the persons.

The capacity for life actualized by soul is not possessed by all bodies. Pygmalion, aided though he was by Aphrodite, might not have been able to kiss into life a statue made of inorganic marble instead of organic ivory. If the four elements are to combine to form an organism, a kind of catalyzer must be present in the shape of "pneuma," a veritable breath of life, which Aristotle regards as akin to the fifth element, aether. It is this "pneuma" which is the material basis of the animate characteristics of a body, and which, through mixture with the seed, enables living things to transmit life and to reproduce.²¹

¹⁴ *De An.*, I, 1, 403a.

¹⁵ *De An.*, I, 1, 403a, 2 ff.; II, 1, 413a-2, 413b.

¹⁶ *De An.*, I, 1, 403b.

¹⁷ *Cf. supra*, pp. 32-34.

¹⁸ *De An.*, I, 5, 411a.

¹⁹ *Ibid.*

²⁰ *Cf. Ross, op. cit.*, pp. 129 ff.

²¹ *De Gen. An.*, II, 3, 736b, 30 ff.

Some organisms, however, both animal and vegetable, may, as a rule or as an exception to it, be generated spontaneously.²²

The distinctive mark of a living body, according to Aristotle, is its power of doing things by itself. Its movements and changes arise from within, and conform to an inner plan. The most primitive expressions of the capacity for self-direction are the processes of nutrition, of growth and decay, and with one or two exceptions, of reproduction. These are common and indispensable to all organic existence, both vegetable and animal. We may therefore speak of the basic and universal functions of animate matter, by which all forms of life are supported, as constituting a "nutritive" or "vegetative" soul.²³

Animals, however, are distinguished from vegetables, in Aristotle's opinion, by the possession of new functions superadded to those shared with plants. They not only live, they feel. They have sensation.²⁴ Just as nutrition is the function characteristic of all organic beings, no matter what other functions some of them may develop, so the sense of touch is the function common to all *sentient* organic beings, whatever their additional and more specialized forms of perception may be.²⁵ Sensation in general is diversified not only by the different senses, but by the feelings of pleasure and pain, and by the consequent appetites, desires, loves, and hates experienced by the organism.²⁶ It comprises, therefore, *feeling* in the widest sense of the word.

These further functions displayed by living matter when it is actualized in animal form Aristotle calls the "sensitive" soul.²⁷ The sensitive soul may properly be regarded as the actuality of which the vegetative or nutritive is the potentiality, just as the vegetative is the realization of capacities possessed in certain circumstances by inorganic matter. For the ability to feel is confined to living bodies and is dependent upon the organic character expressed in their nutritive activities.²⁸ An essential

²² *Gen. An.*, I, 715a, 25 ff.; II, 732b, 15; III, 759a, 33. Cf. Taylor, *Aristotle*, p. 61.

²³ *De An.*, II, 1, 412b, 16, 413a, 20 ff. Cf. Zeller, *op. cit.*, II, pp. 1 ff.

²⁴ *De An.*, II, 2, 413b.

²⁵ *Ibid.*

²⁶ *De An.*, II, 3, 414b, 1 ff. Cf. Taylor, *op. cit.*, p. 64.

²⁷ *Ibid.*, 414b. Cf. Zeller, *op. cit.*, II, pp. 21, 27.

²⁸ *Ibid.*, 415a.

difference between sensation and nutrition appears in their relations to the external objects that they perceive or digest. Both functions are, to be sure, realizations of the characteristic ability of an organic body to turn other bodies to its uses and replenish itself from things outside itself. But, whereas in the process of nutrition a living body extracts and digests the *matter* from other bodies and spits out the form, in the process of sensation the reverse is true. The sense organ sucks only the *form* from the external object and assimilates it alone, leaving the matter to one side.²⁹

III

Aristotle's inquiry into the distinctive structures and activities of the organic forms of matter was not only so extended, painstaking, and discriminative as to make him the father of the biological sciences; it also shows a keenness of observation, a capacity for perceiving and inferring analogies, and an ability to classify and organize that give him first rank among the biologists and natural historians of all time. Indeed, it is his work in this field that reveals most clearly both the essentially scientific disposition of his mind and his genius as a scientist. He was acquainted, though in many cases superficially, with five hundred or so different kinds of animals, and he had probably dissected and investigated in detail examples of some fifty species covering the whole range of the animal kingdom. Whether he ever dissected the human body is doubtful, but he seems to have examined human embryos.³⁰ Many of his conclusions naturally appear fanciful and primitive to us to-day, but most of them reveal him as a man far in advance of his times, and some of them still hold good. Thus to choose a few examples of such observations as have stood the test of time, we have his insistence that whales are mammals—a fact that otherwise remained unremarked till the sixteenth century;³¹ his studies of the growth of chicken embryos;³² his

²⁹ *De An.*, II, 12, 424a, 18 ff. Cf. Ross, *op. cit.*, p. 137.

³⁰ Cf. Ross, *op. cit.*, pp. 112–113.

³¹ *Hist. An.*, I, 5, 489b; III, 20, 521b, 21 ff. Cf. Ross, *op. cit.*, p. 113.

³² *Hist. An.*, VI, 3, 561a, 4 ff.

descriptions of the muscular mechanism of locomotion,³³ of the process of digestion in ruminants,³⁴ and of the habits of bees;³⁵ and the discoveries he made concerning the method of reproduction in cuttle-fish and the other cephalods,³⁶ and perhaps in eels,³⁷ which have been only recently rediscovered and verified.

Aristotle was also far-sighted and frequently correct in his application of the principle of analogy to organic structures. The roots of plants, he tells us, correspond to the mouth in animals.³⁸ The place of bone in the vertebrates is taken by cartilage or shell in the invertebrates.³⁹ So, too, hair, feathers, scales, and mail⁴⁰ are analogous, as are arms, forefeet, wings, and the claws of crustaceans.⁴¹ Again, teeth and bills go together, and also gills and lungs.⁴² And egg-shells, the membrane enclosing the embryo, and chrysales,⁴³ although apparently different, are essentially identical structures. Then, too, as a matter of comparative psychology, men and animals possess many traits in common, and indeed "psychologically a child hardly differs for the time being from an animal."⁴⁴

Unfortunately his botanical treatises have been lost, and we are forced to rely for our knowledge upon scattered references in the works on natural history, and upon the writings of his pupil Theophrastus. But here, too, we find evidence of his omnivorous curiosity, his industry, and his keenness of perception and power of generalization.⁴⁵

The vital functions of organic matter such as digestion and nutrition, respiration, the nature and behavior of the blood,

³³ *De Motu An.* Cf. Zeller, *op. cit.*, II, p. 47.

³⁴ *Hist. An.*, II, 17, 507a, 33 ff. *Part. An.*, III, 14, 674b, 7 ff.

³⁵ *Hist. An.*, V, 21, 22, 553a, 17 ff.; IX, 40, 623b, 4 ff.

³⁶ *Hist. An.*, V, 6, 541b, 8 ff.

³⁷ *Legacy of Greece*, p. 149 ff.

³⁸ *De Anima*, II, 4, 416a, 4 ff. *De Incess. An.*, 5, 706b, 5 ff.

³⁹ *Part. An.*, II, 8, 653b, 33 ff. *Hist. An.*, III, 7, 516b, 12 ff.

⁴⁰ *Part. An.*, I, 4, 644a, 21; IV, 11, 691a, 15 ff. *Hist. An.*, I, 1, 486b, 17 ff.; III, 10, 517b, 1 ff.

⁴¹ *Part. An.*, IV, 12 692b, 15 ff.

⁴² *Part. An.*, I, 5, 645b, 6; III, 6, 669a, 1 ff.; IV, 1, 676b, 27. *Hist. An.*, VIII, 2, 589b, 19 ff. *De Resp.*, 10, 475b, 15 ff.

⁴³ *Hist. An.*, VII, 7, 586a, 15 ff. *Gen. An.*, III, 9, 758a, 25 ff.

⁴⁴ *Hist. An.*, VIII, 1, 588a, 13 ff., 588b, 4.

⁴⁵ *Legacy of Greece*, p. 149. For Aristotle on plants cf. Zeller, *op. cit.*, II, pp. 33 ff.

reproduction, the phenomena of sleep, and the like, were no less carefully studied than organic structures. Here, however, Aristotle was more a child of his age and made little or no progress in the direction of modern knowledge. For him the heart is the seat of life and the most important source of the warmth of the body.⁴⁶ In it the food digested by the stomach⁴⁷ and transmitted by the surrounding veins is turned into blood,⁴⁸ which is then diffused throughout the blood vessels to the rest of the body.⁴⁹ Of the circulation of the blood Aristotle had no inkling.⁵⁰ The brain and the lungs are cooling apparatus,⁵¹ the liver and the spleen help keep the abdomen warm.⁵² Bile is a waste-product pure and simple.⁵³ The intestines are simply organs of excretion,⁵⁴ though Aristotle seems to think that in some animals the digestive process may continue in the small bowel.⁵⁵

The functioning of these organs and the persistence of life in the organism depends, at least in the higher animals, upon the production and maintenance of some degree of warmth. There is a central heating system, the furnace of which, as we have just seen, is the heart.⁵⁶ Sleep is a damping of this organ by vapors given off by the process of digestion, which, rising to the brain, are cooled there and then sink to the cardiac region. During sleep the body is rested, reinvigorated, and given a fresh start for its next turn at waking life.⁵⁷ Death occurs when the vital fires either go out or are put out by a slow, or by a violent and immediate, failure of combustible material. Or something may go wrong with the drafts, as when the lungs

⁴⁶ *De Resp.*, 20, 480a, a ff. *De Vita*, 4, 469b, 6. *Part. An.*, III, 7, 670a, 23.

⁴⁷ For a description of digestion cf. *Part. An.*, III, 14, 674a, 21 ff. *Hist. An.*, II, 17, 507a, 24 ff.

⁴⁸ *Part. An.*, 3, 650a, 1 ff. *De Somno*, 3, 456b, 2 ff.

⁴⁹ Cf. *Part. An.*, I, 19, 726b, 9 ff.; II, 3, 737a, 18 ff.; IV, 1, 766b, 8 ff.

⁵⁰ Cf. Zeller, *op. cit.*, II, p. 41, 2, 6.

⁵¹ *Part. An.*, II, 7, 652b, 15 ff.; III, 6, 668b, 33 ff.

⁵² *Part. An.*, III, 7, 670a, 20 ff.

⁵³ *Part. An.*, IV, 2, 677a, 25 ff.

⁵⁴ *Part. An.*, III, 14, 674a, 10 ff.

⁵⁵ *Part. An.*, III, 14, 675b, 28 ff.

⁵⁶ *Gen. An.*, II, 4, 738b, 16. *De Vita*, 4, 469b, 6 ff. *Part. An.*, II, 3, 650a, 2 ff. *De Juvent.*, 4-5. *De Resp.*, 8.

⁵⁷ *De Somno*, 2-3.

in old age become rusty, and fuel may be burned up more quickly than it can be supplied.⁵⁸ Some of the lower forms of life, instead of having a central heating apparatus, seem to have little stoves in every room. For if they are cut to pieces, each little bit goes on running about on its own account, and shows evidence of sensation and even of imagination.⁵⁹

To the process of reproduction Aristotle devotes considerable space. Though spontaneous generation occurs in some cases, almost all organisms are produced by others of the same type. In the case of plants, and in that of animals that cannot move, Aristotle seems to have felt that reproduction is asexual and requires but a single parent. But in the great majority of living beings a differentiation and a union of the two sexes is necessary.⁶⁰

Aristotle's discussion of the mechanism of sexual reproduction still commands the admiration of biologists.⁶¹ The origin of the male seed, the mechanism of impregnation (Aristotle was ignorant of the existence of the ovum as well as of the spermatozoon, and regarded the menses as the female's contribution to the reproductive process), and the determining factors of heredity and of sex were all treated by him at length. The seed he regarded as a terminal product of the blood, and as the carrier both of the general characteristics of the species and of the individual peculiarities of the parent that are actualized by the offspring.

Following the old Greek view that the role of the female in generation is purely passive and receptive,⁶² and that the child is no blood relation of its mother,⁶³ he gave to it a philosophic twist and maintained that whereas the male provides the Form of the new organism, the female merely supplies the Matter.⁶⁴ But the Form is not impressed *in toto* at the moment of conception. All the parts of the organism are not present

⁵⁸ *De Vita*, 4-5.

⁵⁹ *De An.*, II, 2, 413a, 16 ff.

⁶⁰ *Gen. An.*, I, 1, 715a, 18 ff.

⁶¹ Cf. Zeller, *op. cit.*, II, p. 148, n. 3; Ross, *op. cit.*, p. 121.

⁶² Cf. Plato, *Timaeus*.

⁶³ Cf. Aeschylus, *Eumenides*, 606.

⁶⁴ *Gen. An.*, I, 2, 716a, 1 ff.

in miniature from the beginning.⁶⁵ The seed merely imparts motion to the matter provided by the female, and this motion communicates itself to more matter. Thus little by little, as the process of gestation goes on, the structure is built up and the Form is actualized.⁶⁶ To put it in modern terms, Aristotle rejects the theory of pangenesis and forestalls the generally accepted view of epigenesis.⁶⁷ And although we may have a more exact knowledge to-day of what takes place when the spermatozoon enters the ovum, we have no better description than Aristotle's of the why and wherefore of the process.⁶⁸

The sex of the embryo is determined primarily by the relative strength of the male and female elements. When the seed is stronger than the female element, the embryo is hotter, and by virtue of its superior heat is able to transform blood into sperm and become male. But if the material provided by the female sufficiently resists the motion imparted by the seed, the embryo is cooler, is unable to transmute the blood, and develops along feminine lines.⁶⁹ Monstrosities are, like girls, entirely the mother's fault, only more so. They occur when the female, material principle puts up an even stronger fight against the movements initiated by the form-bearing sperm.⁷⁰ The resemblance of offspring to the father or mother, or to more remote paternal or maternal ancestors, is governed by the proportion of the general masculine traits in the seed to the characteristics drawn from the individuality of the particular parent, and by the relation of this component to the matter provided by the female. We need not, however, enter into Aristotle's rather elaborate computation of the ratios in question.⁷¹

This theory may not have stood the test of time, but it was a brilliant generalization from the data with which Aristotle had to work. Moreover, before dismissing it as primitive and fanciful we should remember that in spite of all our discoveries with regard to spermatozoa, ova, chromosomes, genes, and

⁶⁵ *Gen. An.*, II, 1, 734a, 1 ff.

⁶⁹ *Gen. An.*, IV, 3, 767a, 35 ff.

⁶⁶ *Gen. An.*, 3, 737a, 18 ff.

⁷⁰ *Ibid.*, 769b, 10 ff.

⁶⁷ Cf. Ross, *op. cit.*, pp. 119 ff.

⁷¹ *Ibid.*, 767a, 35 ff.

⁶⁸ Ross, *op. cit.*, p. 121.

the like, the problems of heredity and sex-determination still remain unsolved, and that perhaps our speculations will seem as odd and inadequate in the eyes of future biologists as Aristotle's do to us.

We have neither the space nor the time to follow Aristotle's biological investigations in further detail. It remains merely to note certain conclusions of philosophical importance that he drew from them, or perhaps read into them. The first of these is a powerful reinforcement of his general theory of teleology with which we are so familiar. All living structure and function, however minute and humble, seems to him to be obviously fashioned and actuated by a purpose of some sort, and to be designed by Nature as the most suitable means she can find for attaining her ends. And secondly, his belief that the universe exhibits a progress from pure Potentiality to pure Actuality, is borne out by his ability to arrange the whole animate creation in an ascending series culminating in man.

His insistence on the first point is persistent and detailed.⁷² Every organ exists in order to perform its function, and the reason why it is there, and why it has the structure it has, is because its presence is necessary and its structure is adapted to the performance of that function.⁷³ And the whole complex of the lower organic functions and structures is designed to support life, and is fashioned for that purpose by the power of the vegetative or nutritive soul.⁷⁴ To explain that complex by chance or mechanical necessity or, as Empedocles did, by a haphazard production of organisms, some of which merely happened to be so constituted that they could survive, is impossible.⁷⁵

Again, the structures and the functions thus organized into a living whole are generated as they are for the sole purpose

⁷² For teleology in Aristotle's biology cf. Zeller, *op. cit.*, II, pp. 10 ff. Ross, *op. cit.*, pp. 123 ff.

⁷³ *Part. An.*, II, 16, 658b, 53 ff.; III, 1, 662b, 1 ff., 2, 662a, 25 ff., 14, 674a, 19 ff., 675b, 17 ff.; IV, 12, 693a, 10 ff., 13, 696b, 24 ff. *Gen. An.*, II, 674a, 36 ff., b 16 ff. *Phys.*, II, 8, 198b, 34.

⁷⁴ *Part. An.*, I, 1, 641a, 28. *Gen. An.*, II, 4, 740b, 25 ff. Cf. Zeller, *op. cit.*, *loc. cit.*, for other references.

⁷⁵ *Phys.*, II, 8, 198b, 16 ff. *De An.*, II, 4, 415b, 28 ff. *Part. An.*, I, 1, 640a, 19 ff.

of enabling higher and more specialized activities to be realized.⁷⁶ In the process of gestation the more universal features of all organic life are developed first, as a preparation for the structure peculiar to a given species.⁷⁷ And the nutritive soul as a whole is actualized because it is indispensable to the existence of sensation.⁷⁸ Moreover, the lower imitates and lays hold of the higher so far as its limited capacities allow.⁷⁹ Reproduction, for example, as Plato also remarked, overcomes in a sense the mortality of the individual by enabling him to perpetuate himself in his descendants, and by thus ensuring the everlasting continuance of the species it reflects the eternal.⁸⁰ This is the reason why even plants strive to reproduce, and why reproduction is their highest activity. Through the exercise of the function they participate in their humble way in the changeless and the divine.⁸¹

But the purposes of Nature cannot always be expressed and carried out without let or hindrance. Her designs have to be enacted in a slipshod material that can never embody them whole-heartedly,⁸² and her aims have to reckon with a factor of mechanical necessity which, though she may force it to co-operate with them, curtails to some extent their attainment in their proper form.⁸³ Moreover, the possibility of acting in a contrary manner and of doing the other thing, which is inherent in the potential character of Matter, introduces an element of real chance into the universe, and as a result accidents will happen in the best-regulated world.⁸⁴

The interference of these factors with the realization of Nature's ends accounts not only for obvious failures of purpose

⁷⁶ *Gen. An.*, II, 3, 376a, 27 ff.

⁷⁷ *Gen. An.*, II, 6, 742a, 36 ff.

⁷⁸ *De An.*, II, 3, 415a, 1 ff.

⁷⁹ *De An.*, II, 4, 415a, 26 ff.

⁸⁰ *Gen. An.*, II, 1, 731b, 25 ff.

⁸¹ *De An.*, II, 4, 415a, 26 ff.

⁸² *Met.*, VI, 2, 1027a, 13 ff. *Gen. An.*, IV, 10, 778a, 5 ff. Zeller, *op. cit.*, I, pp. 361, 465 ff.

⁸³ *Part. An.*, I, 1, 642a, 1 ff. *Gen. An.*, II, 6, 743b, 16 ff.; IV, 8, 766b, 32 ff. *Phys.*, II, 9, 199b, 34 ff. Cf. Zeller, *op. cit.*, I, pp. 359 ff.; II, pp. 17 ff.

⁸⁴ *Met.*, V, 30, 1025a, 14 ff.; VI, 2, 1026b, 31 ff., 1027a, 13 ff. *Gen. An.*, IV, 10, 117a, 8. Cf. Zeller, *op. cit.*, I, pp. 362 ff.

like females,⁸⁵ monstrosities, malformations,⁸⁶ degenerations,⁸⁷ superfluous and useless organs and growths,⁸⁸ and the like. It also explains the haphazard variations in the structures of individuals of the same species, as, for example, differences of height, shape, complexion, color, that serve the same purpose equally well, and for which therefore no particular teleological reason can be found. Thus the eye in general exists for the purpose of vision, but why there are blue eyes as well as brown, or vice versa, cannot be explained purposively, since both kinds are equally well adapted to seeing.⁸⁹ We must always remember, however, that many apparently useless features may indirectly serve some end, even if it be the purely formal one of marking the class to which the animal belongs or of contributing balance or ornament to its structure.⁹⁰ In any case, Nature is always doing her best to turn all contingencies and necessities to a good use and to bend them to her purposes.

The aim of this biological effort is clearly manifest. It is the production of man. All the lower grades of animal life are incidental to the attainment of this end, and indeed might be said to represent shortcomings in Nature's work imposed upon her by unfavorable contingencies.⁹¹ In this gradual ascent towards the human form there are no sudden breaks or jumps. Even the transition from inanimate to animate matter affords us no "exact line of determination." In plants again, "there is a continuous scale of ascent towards the animal." But where plant life merges into animal it is impossible to decide. Certain forms of marine life leave us "at a loss to determine whether they be animal or vegetable." Some of these seeming animals "give no indication whatsoever" of sensibility, whilst others indicate it but indistinctly.⁹²

⁸⁵ Cf. *supra*, p. 95.

⁸⁶ *Gen. An.*, IV, 3, 767b, 13, 769b, 10 ff., 770b, 9 ff.

⁸⁷ *Gen. An.*, II, 3, 767b, 13, 769b, 10 ff., 770b, 9 ff.

⁸⁸ *Part. An.*, IV, 2, 677a, 11 ff.; III, 2, 663a, 8 ff. *Gen. An.*, I, 18, 724b, 34 ff.

⁸⁹ *Gen. An.*, V, 1, 778a, 29 ff. Ross, *op. cit.*, pp. 123 ff.

⁹⁰ *Part. An.*, III, 3, 665a, 23 ff.; 4, 665b, 20; 5, 667b, 34; 7, 669b, 18 ff.; II, 14, 658a, 20 ff. *Hist. An.*, II, 8, 502b, 22.

⁹¹ Cf. Zeller, *op. cit.*, I, p. 467.

⁹² *Hist. An.*, VIII, 1, 588b, 4 ff. *Part. An.*, IV, 5, 681a, 12 ff.

So too, the passage from the lower animals to man is almost equally indistinct, both physically and mentally. Creatures like the ape, the monkey, and the baboon "share the properties of man and of the quadruped."⁹³ And the development of conscious life is, if anything, more continuous. The difference between the human mind and the brute is for the most part one of degree and not of kind. Even knowledge, wisdom, and sagacity have their equivalent, potentially at least, in the higher animals. "Psychologically, a child hardly differs for the time being from an animal."⁹⁴ For that matter, the only difference is that the child has a capacity for thought such as will permit him, when he grows up, to receive and exercise the faculty of pure reason—the activity that thinks and philosophizes, and grasps truth and supersensible being. But this capacity, called by Aristotle "potential reason," though it may distinguish man from other forms of life, is still inseparable from his animal nature.⁹⁵ It is a characteristic of the human animal and continuous with the sensitive soul that man shares with the rest of the brute creation. The only thing that is non-animal and not an actualization of capacities provided by the body is the so-called "active reason," which is present in our thinking when we discount the personal, the temporal, and the local in our point of view and lose ourselves in contemplation of the universal and the eternal. But even this could not function as a human mind and enlighten our experience with knowledge of the eternal, except for the basis for thought provided by Nature in the physical organism.

This continuous ascent is paralleled, Aristotle thinks, by purely quantitative changes in certain wholly "vegetative" structures and functions, which afford him a strictly scientific basis for the classification of animals. Higher and lower are proportional to the extent to which the parent organism forms and finishes its offspring before giving birth to them. And this, in its turn, is almost without exception a question of the degree of heat in the blood or in the analogous fluids.⁹⁶ Thus, at the

⁹³ *Hist. An.*, II, 8, 502a, 14 ff.

⁹⁴ *Hist. An.*, VIII, 1, 588a, 18–588b, 4.

⁹⁵ *De An.*, III, 5, 430a.

⁹⁶ *Gen. An.*, II, 1, 732a, 24–733b, 16.

bottom of the scale, and, as we have seen, almost indistinguishable from plants, come most molluscs and other primitive forms of life, which are either spontaneously generated, or, if they reproduce at all, do so asexually by fission or by an effusion of slime. These forms are quite bloodless. So, too, are the insects, whose young are born as worms or gnats and undergo a long process of external development before attaining their proper species. Next come the still bloodless cuttle-fish, crabs, and the like, which lay eggs of sorts, and then the true fish. In the fish blood puts in an appearance, but it is cold, and the egg in consequence is still soft and imperfect. Above them we have the cold-blooded reptiles whose eggs are better developed, and above them, again, the birds, which still lay eggs, but perfect ones, because their blood is warm. Finally, we have the mammals, whose superior warmth enables them to gestate their young within their own bodies, and to bring them forth alive and completely formed without recourse to the egg stage.⁹⁷

Other methods of classification are also suggested by Aristotle,⁹⁸ but they are not so exhaustive. And, of course, exceptions occur even in the comparatively complete scheme we have just reviewed. For instance, whales, he feels, are in most respects to be regarded as fishes. They are cold-blooded, in his opinion, and produce eggs. But since their eggs, he thinks, are retained and hatched within the parent body, and since they bring forth their young alive and suckle them, they are also to be reckoned as viviparous and mammalian.⁹⁹ Vipers, too, hatch their eggs internally and produce their offspring fully formed.¹⁰⁰

We have now completed our survey of the organs and functions developed by physical matter when its higher potentialities are actualized by the vegetative or nutritive soul. But, look where we may, we find no activity that in any way can qualify for the post of Prime Mover. None is without a material sub-

⁹⁷ For this scheme of classification cf. *Gen. An.*, II, 1, 732a, 24-733b, 16. Ross, *op. cit.*, pp. 110-117.

⁹⁸ *Hist. An.*, VIII, 2, 589a, 11 ff.

⁹⁹ *Gen. An.*, I, 9, 718b, 26 ff.

¹⁰⁰ *Gen. An.*, I, 10, 718b, 31 ff.

stratum or some end beyond itself. None functions without change and motion, or imparts movement without expending energy. We must, therefore, go on with our search and proceed to investigate the structures and operations characteristic of matter when it not only lives but begins to feel as well; in other words, when a sensitive is added to the vegetative soul. We pass, that is, to psychology, and to such physiology as is concerned with the immediate apparatus supporting consciousness.

IV

Aristotle's researches into the workings of the sensitive soul, though more restricted, are no less minute than his studies of mere living.¹⁰¹ Sensation first appears at the animal as contrasted with the vegetable level, and indeed, is the mark that differentiates animals from plants. It includes, as we have seen, not only mere perception, but the pleasure and pain by which perception may be attended and the emotions that may be provoked by it.¹⁰² Its essential and distinguishing function, as we have also already noted, is the extraction of the form from the matter of an object.¹⁰³ It receives, we are told, the sensible qualities of things without their matter, just as wax takes the seal of a gold or an iron ring, without laying hold of the gold or the iron itself and converting it into wax.¹⁰⁴

We must not, however, consider the soul a purely passive recipient of form, as wax is when it receives the impression of the device on the signet ring. On the contrary the soul is an active factor in the process. She does not merely receive the sensible quality *from* the object, she also helps actualize it *in* the object.¹⁰⁵ For example, a thing does not possess color until the eye sees the color, or sound until the ear hears the sound. In the absence of an eye or an ear, it merely possesses the potentiality of being seen or heard when brought into con-

¹⁰¹ For discussions of Aristotle's psychology, cf. Zeller, *op. cit.*, II, pp. 58 ff. Ross, *op. cit.*, pp. 129 ff., and particularly pp. 136 ff.

¹⁰² Cf. *supra*, p. 91.

¹⁰³ Cf. *supra*, p. 92.

¹⁰⁴ *De An.*, III, 1, 424a.

¹⁰⁵ *De An.*, III, 2, 425b, 22 ff.

tact with the sense organ. This is in principle much the same as our modern teaching that when ether waves of a certain sort impinge upon the eye we see a certain color, or when air waves of a certain kind strike the ear we hear a sound. But, Aristotle continues, when the sense-organ actualizes the capacity of the object for becoming visible or audible, then the resultant sensible quality or form exists *in both the percipient and the thing perceived*.¹⁰⁶ The object is really itself colored or resonant, at the moment that we are seeing or hearing it. To use modern scientific terminology, the ether waves must be supposed actually to blush in themselves, or the air waves really to ring with a melody of their own, whenever they impinge upon the eye or ear and evoke the sensation of red or of musical sound. Nay more, we must suppose the production of the quality in the perceived as well as in the perceiving body to be brought about, not only by the action of the stimulus upon the sense-organ, but by a reciprocal action of the sense-organ upon the stimulus.¹⁰⁷

If, then, we are still to hold to the simile of the signet ring, we must not think of the face of the metal seal as already engraved before its impression upon the wax takes place. It will merely possess a capacity for developing, at the instant that it comes into contact with the wax, corrugations in its own surface that form the appropriate crest or monogram. In the same way, the wax will have power to raise, when it is in contact with the ring but not before, weals or ridges that correspond to and interlock with the furrows that appear simultaneously in the metal. In other words, the impressing of the ring upon the wax will actualize one and the same form at one and the same moment in two different media. And while the contact lasts, the same identical form will actually inhere in them and be possessed by them both. Take the ring away from the wax, however, and the fissures on the face of the seal will immediately disappear and become once more a mere invisible predisposition to occur again when the contact is renewed.¹⁰⁸ But the ridges in the wax, curiously enough, although they are at

¹⁰⁶ *De An.*, III, 2, 425b, 22 ff.

¹⁰⁷ *Ibid.*

¹⁰⁸ *Ibid.*; *Cat.*, 7, 35b ff.; *Met.*, IV, 5, 1010b, 30 ff.

once flattened and their outlines become faint and blurred, must not be thought of as disappearing from sight altogether. Because of a peculiarity of sensation they will linger on as memories and images.¹⁰⁹

The sum and substance, then, of the Aristotelian view is this. When our eyes are open, their interaction with the external object produces one and the same visible quality both in the object and in themselves. Whenever they are shut there is no longer any color actually existent either in the thing perceived or in the organ perceiving it. In object and perceiving organ alike color has lapsed from an actual state to the potential one of being able to reappear whenever the eye is reopened and the object is there. But whereas darkness has descended abruptly and absolutely upon the medium conveying light, and silence upon the air, in the perceiving body there is twilight and echo. A sensation can be recollected and pictured after it has lapsed.

This theory would seem to betray a certain confusion in Aristotle's mind and a failure to make a complete analysis of the situation. Not only, we are told, are sensible qualities experienced in and by the sense-organ (Aristotle knew nothing of the nervous system or the functions of the brain) but our consciousness of them is nothing but a reproduction of the perceived qualities by the perceiving body. Thus the seeing of a color consists in the interior of the eye becoming that color, and is nothing more. In the same way, hearing is simply the ear becoming resonant, tasting simply the tongue becoming appropriately flavored. Obviously such an account neglects the subjective, conscious character of sensation. We might agree with Aristotle that perception occurs only when there is a union of certain qualities in the perceived object with corresponding, though not, as Aristotle thought, necessarily similar properties in the sense-organ. We know, for example, that ether waves of a certain length and rate of vibration always evoke certain chemical responses from the retina, and that when the wave acts upon the retina and the retina reacts upon the wave, we see a color. But, unless perhaps we are behaviorists, we should no more identify the chemical re-

¹⁰⁹ Cf. *De An.*, III, 3, 429a, 3 ff.

action of the eye with the color *sensation* than we should identify the physical action of the ether with it. Even if it so chanced that the retina actually turned red and looked red when stimulated by the ether waves that make us see red, we should not confuse the color the retina turned with our awareness or perception of that color. Sensation we feel, once more with due apologies to behaviorism, is a state neither of the perceived body nor of the sense-organ but of a third something, consciousness. Aristotle, however, mixes up the mental and the physical, the subjective and the objective aspects of sensation. He fails to distinguish consciousness from the physical conditions with which consciousness is associated.¹¹⁰

But to return to Aristotle's study of perception. The basic sense, common to all animals from the lowest to the highest, is touch.¹¹¹ Taste, which is a specialized form of touch, is equally indispensable and widespread because of its alliance with the function of nutrition.¹¹² Smell is analogous to taste in many respects,¹¹³ but, like sight and hearing, it is absent in some animals.¹¹⁴ Sight is the principal sense,¹¹⁵ though hearing, which is less important so far as the sensitive soul is concerned, is more necessary as a condition for the actualization of the rational soul and the exercise of thought by human beings. For hearing is the basis of language, and language the foundation of reasoning. Those born blind develop more intelligence than those born deaf and dumb.¹¹⁶ The relative importance of a sense may perhaps be regarded as proportional to the degree of thoroughness with which it sucks the form out of its object.¹¹⁷ Thus touch extracts and distinguishes primarily those properties that are common to all bodies,¹¹⁸ whereas the other senses progressively sample more highly specialized and distinctive brands.

¹¹⁰ Cf. Ross, *op. cit.*, pp. 136-137.

¹¹¹ *De An.*, II, 2, 414a, 2-4; 3, 415a, 3-6; III, 13, 435a, 12 ff.

¹¹² *De An.*, II, 10; *De Sensu*, 1, 436b, 12 ff.

¹¹³ *De An.*, II, 9.

¹¹⁴ *De An.*, II, 2, 414a, 2-4; 415a, 3-6.

¹¹⁵ *De An.*, III, 3, 429a, 2.

¹¹⁶ *De Sensu*, 1, 437a, 1 ff.

¹¹⁷ Cf. Ross, *op. cit.*, p. 130.

¹¹⁸ *De An.*, II, 11, 423b, 26 ff.

Our sense-organs, however, are never in direct contact with their objects. They drink in the outside world always through a straw. An intervening medium is necessary through which impressions are conveyed to them. In the case of touch this go-between is the flesh. Our skin does not feel in itself, it merely transmits the qualities of the object with which it is in contact to the heart, where their actual perception takes place.¹¹⁹ Taste is passed on to the heart by the good offices of the tongue and palate.¹²⁰ So it is the heart even more than the tongue that becomes flavored. Something common to air and water, moisture we might say, brings smells to our nose. Air conveys the resonant qualities of the object to the ear, and the medium of vision is a luminous transparent quality, particularly characteristic of the substance of the stars, but found also in water and in the atmosphere.¹²¹ In the case of the eye, the medium penetrates into the structure of the organ itself and suffuses the fluid in the crystalline lens. The seeing is done at the back of the eye.¹²² Aristotle, we might say, is on the road to the discovery of the retina.

Now, all our sense-organs are able to perceive opposite qualities, black and white, loud and soft, rough and smooth, and the like. Since these extremes, when perceived, become properties of the sense-organ as well as of the object, the sense-organ must be composed of a material capable of receiving both them and the qualities lying between them. Naturally, such a material can *actually* possess none of the qualities in question, for if it were *essentially* any one of them, it could not become the others. Thus if the substance of the eye were actually and essentially white, it could not become black or red or any other color without ceasing to be the substance of the eye, and therefore, according to Aristotle's theory of vision, could not see any color except white. The material, then, of the sense-organs must be simple and homogeneous, possessed actually

¹¹⁹ *De An.*, II, 11, 422b, 35 ff., 423b, 1 ff. *Part. An.*, II, 10, 656b, 35 ff. *De Vita.*, 3, 469a, 5ff.

¹²⁰ *De An.*, II, X, 422a.

¹²¹ *De An.*, II, 7, 418a-419b, 2.

¹²² *De Sensu*, 2, 438a, 2-438b, 16.

of none of the properties it assumes but potentially of all of them.¹²³

Furthermore, these potentialities must be nicely balanced. The centre of gravity must lie in the middle of the series, not at the extremes. Too great a capacity in the eye for becoming and seeing black would impair its capacity for becoming and seeing white. Again, qualities become perceptible only when they are actualized a little more or a little less in the object than they are in the sense-organ. Water at blood heat feels neither hot nor cold. Its temperature, to be felt, must differ from that of the hand, or rather of the heart. If sensation is to take place, the state of the perceiving body must always occupy a mean position in any qualitative scale. Upset this balance, strain by too strong an external impression the capacity for becoming actual inherent in the organ, and you damage or destroy the structure. Too bright a light blinds, too loud a sound deafens. Too heavy a touch will even kill the entire organism.¹²⁴

Aristotle investigates at length and in detail the constitution of the various sense organs. But as his conclusions were faulty and contained few flashes of prophecy we need not concern ourselves with them. We will rather pass at once to the further development of his psychology. Our different sensations, as we have seen, are actualized and located in the appropriate sense-organ, sights in the eye, sounds in the ear, smells in the nose, tastes and touch perceptions in the heart. Even the remembering and picturing of a sensation is done by the organ by which it is perceived. Yet, notwithstanding their apparently solitary confinement in separate and isolated cells, the senses somehow manage to communicate. In the first place they are aware of each other's existence and perceive that their several fields of sensation are distinct. We perceive that sounds are different from sights or tastes.¹²⁵ But on the other hand, not only do the different sense-organs often have their fingers in the same pie—witness the fact that certain properties of an exter-

¹²³ *De An.*, II, 1, 647a, 2 ff.

¹²⁴ *De An.*, II, 12, 424a, 26 ff.; III, 13, 435b, 15 ff.

¹²⁵ *De An.*, III, 2, 426b, 12 ff.

nal body, such as motion, rest, form, and magnitude, called by Aristotle "common sensibles," are perceived by more than one sense—¹²⁶ but they can also pool their hodge-podge of sights, sounds, and the like, sort them out, couple them up, and refer them to the same external object.¹²⁷ Sugar for example strikes the eye as white, the tongue as sweet. The two qualities are quite unlike and are actualized in different parts of the perceiving body. And yet we somehow perceive that the two qualities overlap and that what appears white is the same as what appears sweet.

Finally, one sense may poach upon another's preserve and perceive qualities properly apprehended by some other organ.¹²⁸ Sugar strikes not only the tongue but the eye as sweet. Food already *looks* toothsome as it lies upon the plate. In, another way, too, the senses display this peculiar clairvoyance. My eye, to use Aristotle's own illustration, may light upon a blond youth. All that my eye can be really said to perceive is that he is fair, and yet by a kind of second sight I may also "see" that he is Mr. So and So's son.¹²⁹ We, of course, should invoke memory and the association of ideas to explain this apparent extension of a sense beyond its proper limits, but Aristotle regards it as incidental to sensation itself, and calls the associated ideas "accidental sensibles."¹³⁰

In Aristotle's opinion, all this goes to show that despite their seeming independence and finality the five senses are after all only different avenues through which a single faculty of sensation operates. It may be, indeed, the individual sense-organ that does the perceiving of its particular kind of data. Consciousness of sights may be located in the eye, of sounds in the ear, of smells in the nose, of tastes and touches in the heart. But although it has five distinct seats, it is one and the same consciousness living in all of them.¹³¹ It is this "common

¹²⁶ *De An.*, II, 6, 418a, 17 ff.; III, 1, 425a, 15 ff. *De Sensu*, 1, 437a, 9 ff., 442b, 5 ff. *De Mem.*, 1, 450a, 9 ff.

¹²⁷ Cf. Zeller, *op. cit.*, II, p. 67, n. 2.

¹²⁸ *De An.*, III, 1, 425a, 22-425b, 7.

¹²⁹ *De An.*, III, 1, 425a, 22 ff. Cf. II, 418a, 21 ff.

¹³⁰ *De An.*, *ibid.*

¹³¹ Cf. Ross, *op. cit.*, p. 140.

sense,"¹³² as Aristotle calls it, that brings the different fields of sense-perception to a single focus, and combines what would otherwise be five disconnected sets of data into one and the same world. It accounts for our awareness of both "common" and "accidental" sensibles, for our power to distinguish and to compare our sensations, and for our ability to attribute the reports of our different senses, in spite of their diversity, to a single source.¹³³

The fact that the separate senses are so many ways of exercising one of the same faculty of sensation is further proved by the fact that when we fall asleep all our senses lapse. This common unconsciousness must originate in a common sense, since obviously any one of the special senses can be rendered unconscious, as when we are blinded or deafened, without affecting the other senses or putting a stop to consciousness in general.¹³⁴

Again, the fact that perception makes mistakes shows that there is more to sensation than just the five senses. For we can never be in error so far as our immediate experiences are concerned. Whatever sensations we have, we have; what we feel, we feel; and that is all there is to it. But the common and incidental sensibles often turn out to be not what they seem. The report of one sense regarding, let us say, size or shape may be given the lie by the evidence of another, though each of the conflicting data is true and ultimate for the sense that perceives it. A cavity in a tooth for example is as actually and uncontrovertibly big to the tongue as it is small to the eye. So, too, if I have the perception of a blond youth there can be no doubt or error regarding the nature of my perception. But I may be in error in perceiving at the same time that the youth is Mr. So and So's son, or even in perceiving that he is an external object. For I may be not only near-sighted but dreaming and delirious. Erroneous impressions of this sort presuppose, then, in addition to the

¹³² *De An.*, III, 1, 425a, 27 ff. *De Mem.*, 1, 450a, 10 ff. *De Somno*, 2, 455a, 15 ff. *Part. An.*, IV, 10, 686a, 31.

¹³³ Cf. Ross, *op. cit.*, *loc. cit.*

¹³⁴ *De Somno*, 2, 455a-455b.

five senses which present data as given facts, a common sense which checks these data up and frequently does so incorrectly.¹³⁵

There is one other characteristic of sensation that can be explained only on the hypothesis of a "common sense." This is the self-conscious quality of all our perceptions, or, in other words, the fact that not only are we aware of sights, sounds, smells, tastes, and touches, but we are also aware of that awareness. This perceiving that we perceive must be the work either of the sense-organs with which we are familiar or of some extra sense and additional organ. The latter alternative we may rule out at once, since the extra sense would be self-conscious like the others, and its self-consciousness would come from still another sense, and so on indefinitely. We should be caught in an endless repetition of perceiving that we perceive that we perceive. Moreover, every sensible quality would be the object of at least two senses instead of one—the sense that perceived it immediately and the extra sense that perceived the perceiving of it. But certainly colors are not directly perceived by anything but the eye, so far as we know, or sounds by anything but the ear.

We are, therefore, forced to conclude that the awareness of perceiving takes place in the organ that perceives. But this awareness can scarcely belong to the specific function of the organ. It cannot be part of seeing or hearing. For all that we see is sights, all that we hear is sounds. Perceiving that we see, however, is most certainly not a visual sensation, nor is there any audible quality to perceiving that we hear. When we are aware that we are looking or listening, we are not seeing double what we see, or hearing a tale told twice. If, then, the sense-organs themselves are conscious of their own activities, they must be so by virtue of exercising, in addition to their particular functions, an activity of perception in general. Only by granting the existence of such a faculty can we understand how *perceiving* that we hear need not involve *hearing* that we hear, as it would if the ear were an organ merely of

¹³⁵ *De Somno*, 2, 460b, 3 ff.-3. Cf. *De An.*, III, 3, 427a, 15 ff.; Ross, *op. cit.*, pp. 142, 147-148. Zeller, *op. cit.*, II, p. 69.

audition and not also of a common sense.¹³⁶ To the question of the self-consciousness of the processes of thought and reasoning we shall come in a moment.

The main office of the common sense is, Aristotle believes, to be found in the heart.¹³⁷ This, as we have already noted, is the organ in which taste and touch qualities are actualized. Just how the faculty of general perception keeps in touch with its branch offices in the eye, nose, and ear is not clearly explained.¹³⁸ There is some, but by no means conclusive, evidence that he supposed the blood to carry messages between them.¹³⁹ And again he seems to imagine a connection by means of pneumatic tubes running to the heart from the organs situated in the head.¹⁴⁰ That the brain has anything to do with sensation—another Platonic error¹⁴¹ in his opinion—he denies outright.¹⁴²

As we have seen, the sensible qualities actualized in the sense-organs when the latter are in contact with appropriate stimuli linger on in the organs after the contact is broken.¹⁴³ These faded pictures form the content of what Aristotle calls phantasy, or, as we might translate it, imagination. The bulk of these pictures exist only potentially so far as consciousness is concerned, like old photographs, we might say, shut up in an album only a leaf or two of which is visible at a time. But, to continue the figure—which naturally is not Aristotle's, but our own invention—our mental activities are always fingering the album and turning the leaves over, sometimes idly and at random, sometimes in definite ways and with a set purpose. For example, in sleep and, as we should to-day add, in day-dreaming, when the control of actual perceptions is removed, the leaves of the album flop aimlessly about disclosing their

¹³⁶ Cf. Ross, *op. cit.*, p. 141. Cf. *De An.*, III, 2, 425b, 12 ff. *De Somno*, 2, 455a, 12 ff.

¹³⁷ *De Juvent.*, 1, 467b, 28 ff., 3, 469a, 10 ff. *De Vita*, 469a, 4 ff. *De Resp.*, 478b, 33 ff. *Part. An.*, III, 4, 666a, 14 ff. *Gen. An.*, VI, 1, 781a, 20 ff.

¹³⁸ Cf. Zeller, *op. cit.*, II, pp. 66 ff.

¹³⁹ Cf. Zeller, *ibid.*, p. 67, n. 1; Taylor, *Aristotle*, p. 67.

¹⁴⁰ *Gen. An.*, V, 1, 781a, 20 ff.

¹⁴¹ *Timaeus*, 67 B, 76 D.

¹⁴² *Part. An.*, II, 10, 656a, 15 ff.

¹⁴³ Cf. *supra*, p. 104.

images in sequences and combinations that not only are fantastic and grotesque but also are mistaken by the dreamer for actual, present experiences.¹⁴⁴ But when we are awake, in addition to being conscious of the presence of the image we follow it *back* to the sensible impression in which it originated. In so doing we are aware that we are not dealing with an immediate perception of something going on at the moment, but with a relic of something that is dead and gone. In other words, our experience means to us a *memory* of the *past*. This ability to perceive in the present a past event, which is the characteristic feature of memory, is, Aristotle thinks, incidental to our perception of time and is to be attributed to the common sense.

We should also note that in certain passages Aristotle seems to confer upon the imagination the power ordinarily attributed to the common sense of perceiving the "common sensibles," or qualities reported by more than one sense, and of recognizing the incidental references of sensation, such as our perception that our blond friend is also the son of Mr. So and So. And the errors into which we fall in interpreting these reports and making these references are laid in the same passages at the door of phantasy rather than of sensation itself.¹⁴⁵ But this extension of the sphere of the imagination at the expense of the common sense appears to be a passing incident rather than a definite bent in the career of the Aristotelian psychology.

Let us return from this brief digression and look once more at the images referred to the past which we call memories. We see at once that these images differ from one another in their behavior. Some of them float by almost as idly as dreams, with no apparent why or wherefore. Others present themselves only after a deliberate effort on our part to recall them which is frequently painful and exhausting. We rack our brains, as we say, to remember this or that. Memory thus consciously employed and directed is given by Aristotle the special title of *recollection*. Moreover, the memories that lack conscious guidance are not all of them haphazard. Many of them

¹⁴⁴ For Aristotle on dreams, cf. *De Somno* 1-3.

¹⁴⁵ *De An.*, III, 3, 428b, 18 ff. Cf. Ross, *op. cit.*, pp. 142-143.

tend to associate themselves in our minds according to fixed rules, and exhibit an order in their sequence. The memory of a certain event or thing is, for example, likely to call up pictures of similar or of sharply contrasted incidents or objects, or of occurrences that took place near by, or immediately before or after, the occurrence in question. Such trains of imagery, though not deliberate, appear to be subject to some sort of unconscious direction, and are therefore also to be called recollections rather than mere memories. For that matter, our conscious efforts to recollect are most successful when they follow the lead of the unconscious laws of association.¹⁴⁶ Because of its orderly character the procedure of recollection verges on reasoning, and because of its quasi-rational character probably exists in no other animal than man.¹⁴⁷

There remains one more aspect of life and sensation to be investigated before we are done with the subject. An object endowed with these activities is generally able to move about in space under its own steam. It does not have to be set in motion by the pull or push of other objects. Moreover, its movements are not haphazard. It has a way of always proceeding towards some things, and even of appearing to seek them out, and of avoiding and retreating from others. We have then to ask what its motive power is, and why it behaves as it does.¹⁴⁸

The answer to this question Aristotle finds in the fact that sensation is not neutral in value, but pleasurable or painful, and that the pictures it leaves behind are correspondingly pleasant or unpleasant. We simply find ourselves *liking* certain experiences and *disliking* others. But pleasure and pain, or like and dislike, are not merely impressions that the organism passively enjoys or suffers; they are also essentially incitements to action. Sensation reacts to them with the same immediacy as it feels them. And once more we find ourselves just travelling towards the one and away from the other. Given, moreover, memory and imagination, we can picture satisfactions or sufferings not yet directly at hand. These,

¹⁴⁶ On recollection as distinguished from memory, cf. *De Mem.*, 2.

¹⁴⁷ *Ibid.*, 453a, 6 ff. *Hist. An.*, I, 1, 488b, 25.

¹⁴⁸ Cf. *De An.*, III, 9, 432b, 7 ff.

also, attract or repel us, and impel us to move towards or away from them. But we are now consciously *wanting* and pursuing what we imagine will bring us pleasure, and consciously not wanting and seeking to avoid what we imagine to be a source of pain. This consciousness of wanting is *desire*, and the thing or situation that we picture as allaying our want is the object of desire. Without desire, and unless it were definitely focussed, the movements of the organism would display no purpose.¹⁴⁹

The machinery of animal movement is now plain. The prime mover is an object of desire, whose rôle in the process is merely to be potentially pleasurable and attractive. When such an object comes into contact with the organism, this pleasure-giving and therefore desirable characteristic is actualized in it along with its other sensible qualities. But, according to the Aristotelian theory, in the act of sensation the sense-organ itself takes on, we remember, the same qualities as appear in the object and turns red, or sweet, or loud, or whatever other quality is felt. In the presence, then, of an object that in contact with the organism turns attractive, the heart (the organ of the imagination and the common sense) will turn wistful and feel desire. And finally, the qualification of the heart by desire incites it (for that is what being qualified by desire means) to push and pull the joints and limbs in such a way that the organism makes the movements necessary to the pursuit of the object.¹⁵⁰

This emergence of desire as the motive power of animal movement complicates the psychological problem for Aristotle. For at first glance desire cannot be regarded as an essential characteristic of any of the three recognized faculties of the soul. It is not indigenous to either the nutritive or the sensitive soul, since all plants and many of the lower forms of animal life seem to lack it. At least, they are powerless to make the movements of pursuit or avoidance associated with it. Moreover, it is frequently checked, or controlled and directed, by the intervention of reason. At the same time, desire cannot be said to

¹⁴⁹ For Aristotle on the psychology of desire, cf. *De An.*, III, 9-10.

¹⁵⁰ Cf. Ross, *op. cit.*, p. 145.

be a distinguishing characteristic of the rational soul, for reason is often a neutral and dispassionate looker-on at life, devoid of any impulse to initiate or to direct action. It begins, then, to seem as if desire and the source of motion were lodged in some further faculty, and as if the soul travelled on four legs instead of three.¹⁵¹

This, however, Aristotle will not allow. Desire after all is bound up with imagination, for without imagination it cannot exist. It and the movements to which it incites are therefore products of the sense-activities. In many cases the play of imagination and desire will be governed entirely by sensual considerations, in which case we have mere appetite. But some desirable images may commend themselves to reason more than others, and may therefore picture a more fundamental or "higher" object of desire. The desires inspired by such objects constitute our real or rational wish for ourselves, and may be pitted, often successfully, against the desires engendered by less "rational" objects. Of course, it would be a counsel of perfection to suppose that they were always victorious, and we therefore frequently find a kind of see-saw in which now rational desire, now appetite, is uppermost. This intervention of reason, however, does not dislodge desire from its position as an activity of the sensitive soul. For without imagination and mental pictures representing desirable objects we could not have even rational desire and the reasonable movement or behavior consequent upon it. So the soul goes on three legs, after all.¹⁵²

We have now completed another stage in our hunt for an unmoved mover, and may well pause for a moment to gather up our results and estimate their value. Our first impression may well be one of disappointment. Plainly the sensitive soul displays none of the characteristics of the self-sustained and self-contained activity of which we are in search. Sensation depends upon the body for its existence, and upon the presence of external objects for its content. If we are to see, there must be both an eye and something visible; if we are to hear, there must be both an ear and something capable of making

¹⁵¹ Cf. *De An.*, III, 9.

¹⁵² Cf. *De An.*, III, 10, 433b, 29 ff.

sounds. Furthermore, sensible experience cannot digest and organize itself. It takes the reflective activity of reason to do that. Sensation, when all is said and done, is food for thought, and is chiefly valuable for the nourishment and the opportunity to function that it affords faculties higher than itself.

Nevertheless our study of the sensitive soul has given us two important clues. In the first place, our investigation of *desire* has shown us how it is possible for an unmoved mover to impart motion without itself moving or being moved. An object of desire can set things going without pushing or pulling them, or exerting itself in any way, and without undergoing any change in its own essence. For example, a beautiful young girl may walk along a crowded street. She may have no flirtatious intention, no wish to attract. Indeed, her eyes may be modestly cast down upon the pavement, and she may be so wrapt in her own pure thoughts that she is wholly oblivious, not only to the behavior of the passers-by, but to the very existence of any one except herself. And yet she may cause thousands of heads to turn and necks to crane as she goes on her maidenly, self-centred, self-occupied way. In like manner, without exerting or expending any force, and unmoved, unchanged, unconcerned with and unconscious of the commotion it excited, some supreme object of the world's desire might be causing the very heavens to turn round. Conversely the crystalline sphere of the outer stars might revolve ceaselessly from "whence" to "whither," simply because it was in love, and the terrestrial elements might tend to move in straight lines to their appointed places just from homesickness. In them appetite, conscious in living and sensitive matter, might operate unconsciously as an intervening moved mover, and transform the motionless attraction of the Unmoved Mover into terms of locomotion. The problem, then, of how to give potency and effect to a cause that neither pushes, nor pulls, nor creates, nor wills, nor anywhere or in any way touches space and time, is solved.

The second clue turned up by our investigation is this. We have discovered that frequently the activities of reason are not actuated by desire or directed towards any goal outside them-

selves, but spontaneously and completely fulfil their nature by simply looking on at life. In other words, we have found a form of activity that does not want *to do* anything or *to change* anything, and that is perfectly content with things as they are and with itself as it is. In following up this clue we have still several steps to take, and must proceed carefully. But one most significant point is already clear. Because an unmoved mover cannot by definition feel desire, or wish, or will, it does not therefore have to be conceived as unconscious. The fact that those activities of consciousness we call rational may have no desires or purposes proves that.

Moreover, the point has a further implication. We cannot, of course, think of an unmoved mover as a sentient or sentimental being, since sensible experience, apart from other deficiencies, is dyed in the wool with desire. But some experience, as we now know, reaches beyond sensation and sentiment, and in those higher reaches of meditation we find it washed clean of desire, an impassive spectator of what goes on. Such thought is not, to be sure, also purified of imagery, for although it is a mere spectator it is still a looker-on at *events*. But since we can cleanse consciousness of desire, may we not also find some form that is devoid of the other characteristics of sensation as well, and that is not aware of any passing show at all? At least, the possibility and the hope of such a discovery have dawned upon us. Let us now explore the rational soul, where alone they can be realized.

CHAPTER VI

THE APPROACH TO THE UNMOVED MOVER

THE power of rational thought, Aristotle feels, is confined among the animals to man alone. The other animals, to be sure, show many human traits, and even exhibit qualities scarcely distinguishable from wisdom and knowledge. Indeed, as we have already seen, some of them attain a degree of mental development that puts them on a level with children. Hence the transition from animal to specifically human consciousness shows no marked break or jump.¹ Still, there is a point beyond which animal intelligence does not go and the child does proceed. My dog, for instance, knows me and the other members of my family and displays great sagacity in his dealings with us. He has his images, his memories, and his loves of each one of us. But, according to Aristotle, he is unable to generalize these images, and see in them the universal human Form or type of which they are examples. We are not distinctively *human* as distinguished from some other kinds of being. We are just Tom, Dick, and Harry, separate objects in which he apprehends no common nature. But when I myself perceive and deal with members of any family, I am aware not only of their particular existences, but also of a clan or type to which they belong. To me their images are more than colored photographs of a Tom and a Dick and a Harry; they are X-ray photographs, as it were, revealing behind the separate outer appearances of Tom, Dick, and Harry one and the same formal structure. In other words, to me sensation and imagery suggest something that they do not to my dog—a logical definition, or essence, or Form. They introduce things not only by the first names or nicknames by which animals know them, but by family names as well, which tell me what they are and where to look them up in a cosmic “Who’s Who.”

¹ Cf. *supra*, p. 100.

Just, then, as it is the characteristic function of the sensitive soul to suck the sensible qualities or forms out of objects, so it is the function of the rational soul to extract from them their logical forms or essences.² Sensation presents us with miscellaneous individual items, thought with the universal Forms those items embody. Our perceptions are of individual men, our reasons comprehend mankind.

Aristotle's description of the process of knowledge closely parallels that of perception. The illustration of the wax tablet is again employed.³ The rational, like the sensible, wax is potentially all the impressions it can receive. Or, better still, reason is a kind of space or place in which any and all of the Forms may be inscribed and in which therefore they exist potentially.⁴ These impressions are actualized and this "place" becomes formally "laid out" with universal concepts, when the mind comes in contact with the real natures and logical essences of things.

Again, in rational activity we may detect something analogous to the distinction between the particular senses and the common sense. There are two sorts of thought. In the first place, just as the senses cannot analyze or get behind the ultimate data of perception such as colors, tastes, sounds, and the like, but have to accept them as simply *there*, so, too, the mind finds itself confronted with Forms that cannot be further analyzed but simply have to be taken for what they are. These Forms are the final, indivisible species into which more comprehensive classes or genera can be broken up. Thus we may divide the Form or genus "animal" into different species of animals, but with the Form of man or of horse we touch rock-bottom in our subdivision. Further analysis reveals no new essence or nature, but only qualities that are merely incidental and make no difference to human or equine nature as such. A man is a man, whatever be his colour, race, or creed.

Moreover, the wider, divisible classes or Forms have also an indivisible and final aspect if we choose to dwell upon it. For instance, the concept or Form of "animal" becomes ultimate

² *De An.*, III, 4, 429a, 15 ff.

⁴ *Ibid.*, 429a, 27.

³ *Ibid.*, 429b, 29 ff.

and irreducible if we concentrate our attention upon what-it-is-to-be-an-animal, and pay no heed for the time being to lions and tigers except in so far as they exhibit the characteristics of animals in general. The definition of a living being is not a sum of the definitions of all the things that possess life. It is simple and uncompounded, just itself and nothing else.⁵

Or take an example from the realm of pure quantity. Any quantity is of course divisible, if we choose to think of it as such. A line has two halves, or three thirds, or four quarters, and so on *ad infinitum*. But we can, if we so desire, neglect the question of its divisibility when we think of it, and can grasp it as an indivisible unit. In conceiving it, we do not have to conceive first its halves. If we did, we should find ourselves thinking of two lines, not of one. We apprehend it immediately as a single, individual whole. We are also able to exclude from our thought of it the ideas of breadth or thickness and to define it in terms of length alone. In other words, we regard the line as indivisible lengthwise as well as crosswise. The concept of a point is a blank denial of possibility of further division, just as the notions of evil or blackness are negative concepts of the utter absence of good or whiteness.⁶ For the purposes of thought then, some Forms must, and all Forms may, be treated as incapable of further analysis. That is, they may be looked upon as indivisible units, each one of which is held in isolation and strictly confined within a definition applicable to it alone. When they are so regarded, they are not "thought over" or "thought out" by the mind. They are just *there*, present to the mind all at once in their entirety, and they are recognized in a single indivisible act of thought for what they are. If, for instance, I think an object to be a cat or a dog, or even to be the remains of a tyrannosaurus or a *pithecanthropus erectus*, the concept does not stroll into my mental vista letter by letter, or syllable by syllable. There may, indeed, be a preliminary hesitation during which I am, as it were, spelling out what the object means. But if I do finally

⁵ *De An.*, III, 6, 430b, 5 ff. Cf. Hicks's ed., Notes, pp. 510-511, 515-516.

⁶ Cf. *De An.*, Hicks's ed., Notes, p. 522.

get its meaning, its full nature comes upon me all at once, and I read it as a single word.

This suddenness with which concepts or Forms are present in their entirety to the mind Aristotle expresses by saying that we think them in an indivisible instant of time.⁷ Any length of time, of course, like any length of space, is capable of further division. And our thinking goes on in time, and takes time. But just as we do not think of the halves into which the line may be divided, when we conceive the line as such, so, too, the moment in which we grasp the nature or definition of a line does not seem to us to be broken up or long drawn out into smaller moments. Our apprehension of truth is instantaneous so far as we are concerned. For that matter, we could not grasp or intuit a Form as an indivisible whole unless we grasped all of it simultaneously, and without awareness of taking any time to do so. So long as we are conscious of steps, and moments, and a lapse of time in our thinking, we have not yet grasped the nature of an object, but are still trying to find out what its nature is. But, as we saw in the last paragraph, when that discovery and that knowledge do burst upon us, and the nature or Form in question is at last revealed to us, they are not inserted into our minds, however swiftly, like a slide into a magic lantern, *first* one end and *afterwards* the rest. They flash upon it in their completeness all at the *same* time, as a scene or a caption flashes upon a moving picture screen.

We may remember that in the immediate perception of sensible qualities no question of truth and error could arise. If the eye saw red, or the ear heard loud, or the tongue tasted sweet, it simply did so, and that was all there was to it. I might, to be sure, make a mistake in referring the sensations I had to external objects, as in a dream or a fever, or in the identification of my visual impression of blondness with Mr. So-and-So's son. But these mistakes did not affect the fact that the sense-organs perceived what they perceived, and therefore such errors had to be attributed to some further activity of sensation in general, called by Aristotle the common sense.

⁷ *De An.*, III, 6, 430b, 6 ff. Cf. Hicks's ed., Notes, pp. 515-517.

The same is true of intellectual error. There can be no question of truth or falsehood so far as the direct awareness of Forms by the mind is concerned. If the intellect really is contemplating the definition of the triangle, or the nature of the lion, or what-it-is-to-be-a-man, that Form is present to it, and there can be no argument in the matter. But, unfortunately for our peace of mind, our human intellects cannot simply sit still and intuit the truth. The Forms with which the mind deals are presented to it not all nicely fitted into one another like a solved picture-puzzle, but piecemeal and in confusion. The mind then has the task of finding out where they belong, and of putting them together so that they present a coherent scheme of things; just as it falls to the common sense to place properly and to interrelate sensible data.⁸ This kind of thinking, which is always running about gathering up and piecing together fragments of the whole, we may call "discursive" or "synthetic" thought. And here it is, in joining together the different Forms and in making propositions and hazarding judgments about where they belong and how they are related, that we begin to make mistakes and false statements. For example, I may know what commensurability is, and what the circumference and the diameter of a circle are, but any proposition bent on squaring the circle by combining these three perfectly good Forms is far from good itself.

Moreover, this "synthetic," combining sort of thinking is further complicated and exposed to error by the necessity imposed upon the human mind of taking the existence of a sensible world into all its calculations. Plato had been unwilling to accept such a necessity, and had sought to avoid it.⁹ But Aristotle regards it as the inevitable and natural consequence of the association of the human intellect with a physical organism. After all, the operation of our human minds presupposes the existence of the sensitive soul, just as sensation can only be exercised by a body already possessed of life. To think, then, we must perceive, just as to perceive we must live. Even our profoundest meditations cannot wholly forget the lowly conditions in which they are cradled. We never, as Aristotle em-

⁸ Cf. Ross, *op. cit.*, pp. 147-148.

⁹ Cf. Ross, *op. cit.*, p. 148.

phatically states, think without images.¹⁰ Complete abstraction is impossible to us. If we think of a pure quality, a concrete embodiment of that quality floats before our eyes. If we try to conceive quantity in general, we cannot help also imagining a definite quantity of some sort. And time casts its shadow over our contemplation of the eternal. The triumphant Platonic flight of dialectic to the Ideas, unaided by even the colorless diagrams of mathematics, cannot take place. All human thought whatsoever is in the case of the geometer, who, without needing figures of a definite size to explain his meaning, must always draw such figures in working out his problems.¹¹

But thought that is about sensible objects and involves imagery must always contain an incalculable and irrational factor. A Form to be sure, must needs be what it is and nothing else. In grasping it we grasp a necessary truth. If we know what the nature or definition of man is, we know it. But sensible objects, being infected with Matter and Potentiality, *need* not be what they are and have the Forms they have. The bronze that has been cast into a statue might in other circumstances just as well have been made into a door. And the statue in other contingencies might just as well have been made out of marble. Furthermore, sensible things are clusters or combinations of various Forms, and it is frequently hard to say offhand which Form defines the essential nature of the object, and which is merely an attribute and accident. I may have absolute *knowledge*, for instance, of the features that *necessarily* distinguish the human and the simian types. But I may unearth a skeleton, or even discover a living animal, that is not immediately and necessarily an example of either Form and that defies me to *know* what it is. It may be essentially a man endowed with ape-like attributes, or essentially an ape with incidental human characteristics. I incline perhaps to one interpretation rather than the other, but I cannot be sure.

So it is that in dealing with sensible objects there is always a possibility of error and an element of uncertainty. There is no *reason*, logically speaking, why they should not be other than

¹⁰ *De An.*, III, 7, 431a, 16-17; 431b, 2; 432a, 12-13; *De Mem.*, I, 449a, 30.

¹¹ *De Mem.*, I, 450a, 1 ff.

they seem, and hence their real natures and the real relations between the different characteristics they present are not *necessarily* given at first sight. In reflecting upon them as they appear both in fact and fancy, I must be wary of saying boldly "I know," and must content myself with quavering "I believe," or "I am of the opinion that." Of course, my belief may be true, and I must feel it to be so if I am to hold it. But it only *happens* to be correct, and for aught I really *know* it may be false. So long as this possibility casts its shadow upon my thinking I dwell in the valley of indecision and opinion. Out of this valley much of our human reasoning never climbs. For knowledge can emerge from opinion only when I feel that my proposition is *necessarily* true, or, in other words, when I am convinced that the Form or the relation between Forms I have in mind is not only possibly but *actually* the nature of the object or of the situation under examination. At last, I say, I have grasped something that cannot be other than it is. But often before I can say that, I must go through a long and difficult mental process of "reasoning out" the situation with which I am confronted.¹²

Into thinking and reasoning of this sort, moreover, the time element enters and brings further confusion.¹³ Thought has to deal with the past and the future as well as with the present, and we must be able to figure out not only what is, but what was and what will be true. Our problem, then, in seeking to grasp the system of Forms that organizes the universe is not so much to solve a picture puzzle as it is to find the patterns in a kaleidoscope. No wonder that in these circumstances intellectual uncertainty and error loom so large in human calculations.

Indeed, so bewildered, so dependent upon the senses, and so lacking in self-sufficiency is our intelligence that any hopes we may have had of finding in the rational part of the soul some hint of the nature of the Unmoved Mover seem already doomed. Certainly here is little trace of a self-existent, self-justified activity, little for the world to fall in love with, little to set all

¹² For Aristotle on "opinion" cf. *Posterior Analytics*, I, 33; *De An.*, III, 3, 428a, 20 ff.; Zeller, *op. cit.*, pp. 163 ff., II, p. 106; Ross, *op. cit.*, p. 49.

¹³ *De An.*, III, 6 430a, 31 ff.

things moving by the sheer appeal of its perfection. Reason, we might feel, is no steadier or surer than sensation. The two parts of the soul are, rather, in the same boat, are rocked upon the same waves of becoming, and steer the same erratic course.

Still, just as second thought discovered unexpected clues to the Unmoved Mover in the sensitive soul, so a further consideration of what is implied in the operations of reason will show us that we have really made important progress, and in fact that we are nearly at our journey's end.¹⁴ If we will but look more closely we shall see that a tremendous and all-important difference between the rational and the sensitive parts of the soul has declared itself. Sensation actualizes a capacity inherent in a *body* for being affected in restricted ways (the *sense-organs*) by *some* of the *physical* qualities of other *individual* bodies. And the sense-organs, even when they are asleep and inactive, and exist as mere capacities for sensation, still have a material structure and substratum of their own. The eye, for example, does not cease to exist as a physical organ when it is closed. The intellect, on the other hand, in its potential state is, we may remember, a capacity for receiving and becoming, not particular sensible qualities and images, but universal concepts and abstract and incorporeal natures like a chemical formula, or the laws of motion, or the definition of a triangle. But evidently, anything that is corporeal cannot be conceived as turning into something that is incorporeal. A physical thing can become circular or equal to another, but it cannot become equality or circularity as thought can, and as thought does when it assumes the Form in question. Hence the intellectual capacity for taking on Form cannot be a physical disposition or structure of the body, like hot or cold, or the eye or the ear. There can be no special organ of thought as there are organs of the special senses. And, Aristotle adds, ignorant, we note once more, of the function of the brain, "as a matter of fact thought has none." Furthermore, if the intellect had a bodily organ, we should expect thought to be exhausted or even destroyed by too great stimulation, as the senses are. But the

¹⁴ For a study of the Aristotelian doctrine of the intellect *cf.* Hicks's edition of the *De Anima*, Introduction, pp. lviii ff.

sensitiveness of intellectual activity is not diminished but increased by intense thinking.¹⁵

Our power to think, then, is not, like our capacity for perceiving, a power the body develops itself. It is true that this power would not be at hand in us unless we were also living, perceiving organisms. Nevertheless, it cannot be attributed to or identified with anything in our bodily make-up.¹⁶ But in that case how are we to regard it? What is there to the mind's eye when that eye is closed? Aristotle's answer is short and sharp. The intellect, he tells us "is nothing at all actually before it thinks,"¹⁷ or, we might add, when it stops thinking. When the mind's eye is closed, the eye simply is not there. The moment the mental lid is shut, there is a vacant socket behind it. For there is no thing, no organ, no substratum into which thinking can relapse when inoperative.

The analogy then of the blank wax tablet is too gross to apply to the potential intellect. Wax has an actual composition of its own, as the sense organs have, apart from the impressions it receives and before it receives them. The best simile we can find is, after all, that of empty space. So it is that we have already seen Aristotle¹⁸ hastening to supplement the analogy of the wax, and to inform us that the capacity for thought is best described as "a place of forms and ideas,"¹⁹ where the Forms are present potentially, just as all possible geometrical figures exist potentially in empty space awaiting actualization. For a "place" before there is anything in it, or a space that is not "laid out" in some form or other, is not a body or a thing or a substratum, and has no structure or nature of its own. It, too, is actually nothing at all, and yet it can be inscribed with and take on all sorts of forms.

But not only is the intellect "nothing at all actually before it thinks"; when it does think it is nothing at all *actually* except *what* it thinks. In the act of thought it assumes no Form of its own in addition to and different from the Forms it enter-

¹⁵ *De An.*, III, 4, 429a, 10 ff. Cf. Hicks's ed., Note, p. 474.

¹⁶ Cf. Rolfes, *op. cit.*, p. 34.

¹⁷ *De An.*, III, 4, 429b, 24.

¹⁸ Cf. *supra*, p. 119.

¹⁹ *De An.*, III, 4, 429a, 27-28.

tains. All there is to thinking is that which is being thought. If there were anything more to it, and if the mind had a Form or nature of its own apart from the concepts that occupy it, such a Form would stand between it and its objects and hinder and obstruct the vision of truth.²⁰ It would act as a kind of window pane through which the truth had to be viewed, and would reveal the truth, not stark naked, as it really is, but veiled, no matter how diaphanously, by the intervening glass, and seen as the character of this mental glass dictated. However transparent the nature of the glass might be, it would intrude an alien something into the scene, which did not belong there. We have only to open the best-washed window to feel the difference between even the cleanest pane and none at all. The intellect, having no Form of its own, is wide open to truth. It is nothing but the Forms it assumes, just as unwindowed space, when filled with scenery, is nothing but the scene it displays. Being completely "taken up" with the Forms it takes on, it is indistinguishable from them.

But besides holding that all there is to the intellect is the Forms it entertains, Aristotle also believes that all there is to the Form is wholly present in the mind when we are thinking it. Herein, again, thought differs from sensation. When I *perceive* an individual man, my perception does not take him all in. There is a lot of him left over outside me and outside my perception of him. Indeed, I *perceive* only accidental attributes, but never his essence. But when I *conceive* and *know* what human nature really is, all there is to know about human nature is comprised in my thought and knowledge. The whole truth, the essence of the matter, what-human-nature-really-is, is wholly present within my intellectual "place of forms." From the side of the Forms, then, as from that of the intellect, the identity of Form and intellect in the act of knowledge is complete.

A difficulty, however, occurs at this point to our modern way of thinking. Is not your intellect a different intellect from mine, and do we not both conceive things like the definition of the triangle or the law of gravitation intermittently? But, if our minds are different, how can the Forms your mind takes on

²⁰ *De An.*, III, 4, 429a, 20 ff.

be the same as mine becomes, even when we are thinking the same truth? If you and I, for example, are in perfect agreement at the same moment upon the definition of the triangle, our concepts will indeed be similar, but how can they be the *same*? There will be two concepts, two versions or copies of the truth in question, just as when we both look at an apple your sensation "red" is not my sensation "red," however much these perceptions may resemble each other.

To Aristotle, happy in the Greek freedom from the problems of "individuality," "personality," the "ego," and the like, which so complicate modern philosophy, this difficulty did not occur. But we may guess how he would have answered it. Our sensations, he would probably have said, are only similar but not identical because they are qualities assumed by our bodies rather than Forms assumed by our minds. Our bodies, being made of different matters, are different and separated from one another, and, being made of a changeable substratum, change and differ in themselves from moment to moment. That is why your sensation "red" is not my sensation "red" when we both are looking at the same apple, and why your pain is not my pain after we have halved and eaten the apple, however much my pain may feel like yours. Conceiving and thinking, however, have no material substratum to be different in you and me, and thus to create distinct and separate *rational* souls in us both as it creates different vegetative and sensitive ones. Thinking and knowing are not attributes or functions of any underlying soul-substance or thinking subject, of which there can be a number. The rational part of the soul, then, is essentially the same in us both, not essentially different like the sensitive and vegetative parts associated with separate bodies and therefore with different living and feeling subjects.

It follows that the Forms known by reason are the same Forms, wherever reason happens to be located. Although the image you perceive with your particular sensitive soul is only *like* the "image" I perceive with mine, the general idea or definition conceived by our joint and identical rational soul is the *same, identical* definition for us both. In the same way, the sensations I have to-day are only similar to those I had yester-

day or shall have to-morrow, because the perceiving part of the soul goes on in time, and grows older and changes with the body. But the concept of yesterday is the same as that of to-day or to-morrow, since it forms and constitutes a part of the soul that, having no corporeal substratum, is not subject to time and change.²¹

Nor in this connection did Aristotle bother about the question of "consciousness" as something apart from its data—a question which suggests to us the existence of something behind our thoughts that does the thinking. In the sensitive soul, we may remember, perception was nothing but the sense-organ becoming the quality perceived. My awareness or consciousness of red was simply the reddening of the eye.²² In like manner, we may believe, the awareness or consciousness of a Form was for Aristotle simply the intellect assuming that Form, and becoming circularity or equality or what-it-is-to-be-a-man. Or better still, in view of the substitution of "place" for wax as a metaphysical description of the potential intellect, and in view of the assertion that the intellect when thinking is nothing but the thought it thinks, consciousness of a thought or Form would be merely the *presence* of the thought or Form in question.

Such a view of the "consciousness" of the rational part of the soul is also implied in the little Aristotle has to say about its self-consciousness. The mind's knowledge of itself, which accompanies its thinking, does not in any way set the mind over against its thoughts, or endow it with a Form or "self" of its own distinct from the other Forms it thinks. The intellect does not know itself as one among the many objects knowable to it. Nor does the fact that its self-consciousness is knowledge of mind turn its object into mind.²³ For the intellect in knowing itself can only know the Forms constituting that self. And over and above those Forms there is no self, no intellect for it to know. "For where the objects are immaterial that which thinks and that which is thought are identical. (Speculative knowledge and its object are identical.)" Or, as we might also put it, just knowing that we know gives us no further informa-

²¹ Cf. Zeller, *op. cit.*, II, pp. 99–100.

²³ *De An.*, III, 4, 429b, 22 ff.

²² Cf. Ross, *op. cit.*, p. 137.

tion about *what* we know. It adds no new item to those already at hand, and does not extend our knowledge one iota.²⁴

Finally, Aristotle might have suggested that the reason we are different individual thinkers as well as different vegetative and sensitive souls, lies in the fact that human thought is tinted and adulterated with images. Every Form we conceive we have willy-nilly to picture. Now, images are bound up with the sensitive part of the soul, which is a function and expression of the body. And our bodies are separate and distinct because they possess Matter, the principle of individuation, whose surplus of potentiality over actuality keeps every Form, except God's, constantly reiterated in an attempt to realize it completely in a single concrete instance of itself. Imagination, then, being a function of matter, will be as individualistic and multiple as the individual sensitized bodies and sensitive souls in which it appears. Consequently, each one of us will have his different, particular way of *picturing* the single, identical truth that the universal reason, common to us all, is conceiving in us in the same way.

This is not the whole story, however. We are not only picturing, we are *thinking* in images. Our imaginings are not vain. Truths are enmeshed in them. But so far as truth is enmeshed in imagery, it, too, will appear multiple, as a concept reduplicated in many individual minds. In short, not only will the same Form, so far as it is pictured by you and me, look like two distinct images perceived by two individual perceivers; it will also look like two separate *thoughts* entertained by two separate thinkers. The definition or Form of the triangle, for example, will be blended with one set of images in your total awareness of it, and with another in mine. Therefore *the* definition of the triangle will also be *my* definition and *your* definition. If, however, the Forms, whose presence constitute intellect and knowledge in us both, could be purified of the imagery that divides and multiplies them and makes them "personal matters" for us, then the literally "imaginary" distinction between mine and thine in our *thought* would disappear. In the vision of truth there would be "no more of thee and me" and we should

²⁴ *De An.*, III, 4, 429b, 22 ff.; Ross, *op. cit.*, p. 147.

simply have one and the same set of Forms thinking itself in a single, indivisible, impersonal act of intellection. For the distinctively rational part of your soul and my soul is nothing but the thinking of Form, not by you or me, but by itself.²⁵

Incredibly perplexing and remote from everyday life as this may seem at the first blush, it, or something that suggests it, is a matter of common and frequent experience. If you and I are working out a difficult problem together, we both of us tend, as we say, to become more and more "absorbed" by it. And as we become absorbed in and by the thought that occupies our minds to the exclusion of all else, our awareness of our separate selves, and indeed of any self at all, is forced out to the very edge of consciousness, where it hangs on as a mere fringe of vague sensation and imagery. From our thinking and reflecting it has disappeared almost altogether, since they are wholly taken up, save for an inattentive and almost "unconscious" noting of this fringe, with the problem that engages them. To all intents and purposes we have both of us become simply the thing in which we are so interested and of which we are so full. So far, then, as we exercise our purely intellectual activities we do tend to turn impersonal, to lose sight of our separate individualities, and to become indiscernible from one another and from the truth we are contemplating.

In spite, then, of our earlier pessimism, we can now see that our intellectual activity does carry us far beyond the point at which the sensitive soul reaches its limit and lets us drop. Indeed, it verges on being a principle with both the source and the justification of its existence within itself, such as might fitly cap the climax of the universe and inspire all things to aspire towards its perfection. And it could perhaps demand consideration for the position of Unmoved Mover, were it not for the potential element in it, which definitely disqualifies it for the post. This remnant of Potentiality not only betrays itself in our "*trains* of thought" and our processes of "reasoning out," where one concept is arrived at through another and one conclusion provides the material for the next; the cloven hoof is also displayed in the intermittent character of those supreme

²⁵ Cf. Ross, *op. cit.*, p. 151.

moments in which we finally apprehend the truth. At one instant the truth, the Form that explains and satisfies, is there and our mind is nothing but its presence; at the next our attention flags, we forget, the *mot juste* has escaped us, the truth is no longer there, and the rational part of the soul is nothing but its absence. No unmoved mover can seesaw like that.

This potential element, moreover, cannot be laid wholly to the association of reason with the sensitive and vegetative parts of the soul. It is true of course that we human beings could not possess the capacity for thought unless we had bodies and senses. And to this extent the sensitive and vegetative souls make possible the possibility of intellectual activity, and may be held ultimately responsible for the fitful and intermittent actualizing of that activity in us.²⁶ Nevertheless, the reason that the vision does not last, and that the instant of complete union with the truth is not made eternity for us, is only indirectly due to the weakness of the flesh or of sense. It is an internal complaint of the spirit itself. For obviously the potential factor must itself be *intellect*, since, as we have seen, the intellect cannot be made of anything except itself. The potential intellect, then, must be within the rational soul, and part and parcel of it.²⁷

Can this malady of the spirit be cured? It must be before we can say that the spirit is a God. Let us see how Aristotle treats the case.

In the first place, he assures us, it is only natural that the human intellect should suffer in this way. It is the common lot of all natural processes to be a passage from the potential to the actual, and human thinking is a natural process. We should, then, expect to find in the intellect the same distinction between Matter and Form that we find elsewhere throughout the universe.²⁸ Or if we prefer to think of our reasoning as a kind of art, there, too, we find a Form, already once and for all

²⁶ Cf. Ross, *op. cit.*, p. 151.

²⁷ Cf. Adamson, *Development of Greek Philosophy*, p. 219.

²⁸ For Aristotle on the passive and the active intellect cf. *De An.*, III, 5. Cf. also Hicks's edition, Introduction, pp. lxiv-lxix; Zeller, *op. cit.*, pp. 97 ff.; Ross, *op. cit.*, pp. 148 ff. My own discussion is based on Ross's interpretation.

present to the artist, slowly developing and producing itself in material of some sort. In whatever way we regard it, clearly the mind like everything else has *to become* the Forms that constitute its essence.

But now, if we look at the symptoms more closely, we shall see that the intellect suffers from a far lighter case of potentiality than that which afflicts the rest of Nature. In the productions of Nature and of art Form is developed in a material of different character from itself, and the transition from potentiality to actuality involves a real change of quality, save in the pure locomotion of the heavenly bodies. Fodder becomes a horse, bronze becomes a statue. But in intellectual productivity—in the artist's apprehension in his own mind of the Form of the statue, for example—the transition from the Form that it is possible for him to think to the Form he ends by actually thinking, does not involve any change in the Form itself. His mind may indeed range through and actualize a series of Forms, before he lights on the one that suits him. But each Form, as it occurs to him, is suddenly *there*, all ready made, simply what it is and nothing else, made out of nothing else and convertible into nothing else. So, too, in following up a train of thought we proceed not by an unbroken, inclined ramp, but by separate steps, upon each one of which our minds rest in a state of definite, though it may be tentative, conclusion. The successive concepts we entertain do not *turn into* one another. One idea merely *replaces* another in our intellectual "place of ideas." The problem may be difficult, and its solution may involve the trial and rejection of many different Forms. But each new Form is given complete in a sudden spurt of intuition, and is discarded with equal suddenness and thoroughness.

The Forms, then, that are evoked and actualized by intellectual activity are fabricated out of nothing but their own absence. And when intellectual activity is suspended in moments of inattention or forgetfulness, the Forms relapse into no other Forms of being but simply into their own absence. This absence, we need scarcely point out, does not involve a cessation of sense and imagery as well. The moments, or perhaps we should

rather say, the stretches when we are not reasoning are not moments of unconsciousness. The rational soul may snore peacefully while the sensitive soul is wide-awake. The lapse of intellectual activity means merely that the logical concepts in which knowledge becomes actual have ceased to occupy us.

Furthermore, the absence of these Forms which constitute truth and knowledge must not be taken to imply their annihilation. When a Form pops into mind it is not created out of nothing. Nor when it pops out of mind does it pop out of existence. It exists as a possible concept both before and after it is actually entertained in thought. It goes on being enacted in the physical world, irrespective of whether or not it is conceived by us. And the thing it gives form to is the potentiality of some other thing. But in its rôle of a possible object of thought a Form is not also an actual "something else," as the possible statue is also actual marble or bronze. As matter for thought it has no nature except the nature that thought formulates. The laws of motion, for example, or the definition of a circle, or the Form of man, when they are out of mind and constitute potential knowledge have the same character as that which actual knowledge presents. They do not suffer alteration in the act of being understood, as bronze is altered into something more and other than itself in the act of being made into a statue, or as the child is changed in the process of growing into a man. The play of knowledge in the mind is rather a kind of mental locomotion, movement to and from a "place," and its potential aspect is not unlike the capacity for "whence and whither" that still dogs the heavenly bodies, which, like the Forms, are incapable of alteration. Or we might compare the difference between potential and actual knowledge to the difference between visibility and invisibility. The successive acts of understanding in which ideas come and go are like the abrupt illumination and obliteration of a scene when lightning flashes in the dead of night. The darkness out of which the scene springs contains it as a possible vision, and contains it, already and only, in the form in which it will become actual. But as an actual vision it remains nothing at all, and the darkness is a mere "place" to the mind's eye, until the flash occurs.

So it is that the distinction between the potential or, as Aristotle now calls it, the *passive*, intellect and the actual or *active* intellect is not a distinction of nature, like that which subsists between marble and the statue or between the qualities that go to make a good football team and the team itself. On the contrary, in the intellect the potential, material element has lost every vestige of positive being different from the actual, and is purely negative. Unlike all other potentialities it has no maiden name, no name of its own different from the name of its actuality, which is changed by its marriage. It cannot be called something else, as the potentiality of a statue can. It can only be called "intellect." And the actualizing of this potential intellect and the formulating of this mental matter no longer involve the *transformation* of an alien substance from below. They consist solely in bursts of *information* from above. The difference between the potential and the actual has in the rational part of the soul been reduced literally to a vanishing point.

We can now appreciate the full significance of Aristotle's insistence that the intellect is actually nothing at all before it thinks, and of his substitution of the simile of "place" for that of wax in describing its potential, material state. His words mean that Nature, by the time she has grown to the stature of the potential intellect, has almost outgrown of herself the taint of Potentiality and cured herself of Matter. Indeed, her intellectual fluctuations can scarcely be described as successive recoveries from and relapses into any positive disease. They are rather the ups and downs of a convalescence verging upon perfect health. To make her entirely well, and to secure a Form of being wholly free from every trace of Matter and Potentiality, we have only to stop this nervous twitching of the mind's eye which is its sole remaining weakness. This we may effect by reassuring the intellect that even the fitful moments of vision it enjoys in us are explicable only on the hypothesis that it is really all the time one with the whole system of Forms, and that it has merely to wake up to this fact in order to be the whole truth and nothing but the truth. For instilling this confidence one more dose of our familiar house-

hold remedy, the principle of the priority of the actual, is indicated.

We are already well acquainted with the working of this principle,²⁹ and can predict the effect of its application to the intellect. So long as a thing is merely *possible*, there is a chance of something else, or at least of nothing at all occurring. The marble that is the possible statue may be made into a vase instead, or it may continue to lie uncut. In the case of the potential intellect, of course, nothing other than intellect can be made of it, but there is always the possibility that it will not be actualized and will remain purely negative. Since our knowledge and the Forms that constitute it are intermittent in their presence and incomplete in their presentation, they may at any moment absent themselves definitely and completely. Why then do they present themselves at all? The mere possibility of their occurring is always counter-balanced and negated by the equal possibility of their non-occurrence, and therefore cannot account for their being here in us. To tip the scales in favor of becoming actual rather than of remaining potential an extra weight from the outside is necessary. In the case of a block of marble the Form of the statue or the Form of the vase might, either one of them, supply the weight, because marble is naturally fickle and polygamous, and is capable of taking on both of them. But since the strait-laced, essentially monogamous potential intellect is capable of becoming actual intellect alone, an actual, already existent intellect alone can stir and actualize it.

Therefore, beside the potential or passive intellect "which becomes all things," there must also be, says Aristotle, an active intellect "which creates all things."³⁰ The act of creation by which the active intellect incites the passive to exercise its capacity for knowledge, and to apprehend and become Form, he describes with two different similes. He likens it both to the moulding of a material by an artist, and to the turning of potential into actual color by the coming of light. The latter figure was perhaps suggested to him by the analogy drawn by Plato between the action of the sun in the

²⁹ Cf. *supra*, p. 57 ff.

³⁰ *De An.*, III, 5.

world of sense and that of the Idea of the Good in the world of Ideas.³¹

In applying these analogies we should remember that the active intellect, unlike the human artist, is nothing but the Form it has in mind. It, its mind, and the Form it has in mind are all identical in its act of knowledge. And the material upon which it works is nothing but its own absence. Hence its mode of giving Form to this material is simply an activity of making itself present. In the same way, light, when it comes, makes objects, heretofore invisible, visible to the eye. But what is light except the visibility of objects, or, to put it intellectually, the actual apprehension of Form? And what is the mind's eye? It has no substratum, no structure, no Form of its own as the physical eye has. When it is open, it is nothing but the visibility or apprehension of Forms. When it is closed, it is nothing but their absence. Once more, then, as the light of reason flashes and truth becomes visible, we have simply the fact that Form is not merely enacted in physical objects but is also present in the universe in the way that we call "Mind."

The question of the active and the passive intellect is one of the most difficult that confronts Aristotelian scholars, and has provoked a great variety of opinion with respect to Aristotle's real meaning.³² Perhaps our safest course would be to say that Aristotle was never clear on the point in his own mind, and to let it go at that. But before adopting such a counsel of despair, a little more can be said that does not strain his all too brief discussion, and that may serve to sum up the matter.

Given the priority of the actual over the potential, we may say, the possibility of knowledge presupposes that there is such a thing as knowledge, just as the "statuable" capacity of bronze and marble presupposes the existence of such a thing as a statue which they may become. Now all Forms are equally intelligible, and are therefore equally capable of constituting by their presence the rational part of the soul. Hence the entire system of Forms must be really known by us, and the whole body of

³¹ Cf. Ross, *op. cit.*, p. 150.

³² For an account of these opinions cf. Hicks's ed., *De Anima*, pp. lxi-lxix; Adamson, *op. cit.*, pp. 249-254; Webb, *Studies in the History of Natural Theology*, pp. 264-273.

truth and knowledge must somehow be there in us in its completeness, all the time. If we did not really know everything, we could not possibly know anything. The "real presence" in us of this eternal and all-comprehending act of knowledge, which is one with its object and is identical in every individual, constitutes our active intellect.

There is nothing in the nature of this act itself that can limit or interrupt it. It is intrinsically as easy to understand all things as one thing, and to understand at one time as at another. Reason *qua* reason "does not at one time function and at another not." In a superhuman being this possibility of knowing all at once all there is to know might be completely realized and converted into actuality. If it were, the possibility of the opposite—of not becoming as well as of becoming—which lurks in all potentiality would be completely excluded from such a being. More specifically, the potentiality of *not* always knowing the whole truth, betrayed by sporadic and fragmentary knowledge, would be entirely ousted by the complete actualization of the possibility of knowing it all, and we should have a mind altogether free from the potential element.

We human beings, however, are physical objects, endowed with bodies, senses, and individualities. Hence in us this counterbalancing possibility is not ousted, but presents itself along with the complete and unified system of Forms, or body of knowledge, that constitutes the active intellect. The result is that in human beings the single, all-inclusive act of understanding the whole truth is forever negated by the possibility of not knowing and of not being known, and appears as individual minds in which "linked" argument "long drawn out" is interspersed with flashes of intuition. We are victims of the power to turn the light off as well as on, to forget as well as to remember. Consequently the moments in which the Forms are known are always offset by moments in which they are merely knowable. So it is that, although generally speaking potential knowledge is not prior in time to actual knowledge, it is so in the case of the individual.³³ The perpetual light of the active intellect is there from the beginning, but we are creatures in

³³ Cf. *De An.*, III, 5.

whom "the light shineth in the darkness; and the darkness comprehended it not." In the moments, however, when the darkness does comprehend it and is dissipated by it, we for a brief space exercise the power to become as God.³⁴

This power, it will be noted, is implied in the possibility of not thinking and not knowing. For it is a poor rule that does not work both ways, and since all potentiality is by definition double faced, the one alternative cannot exist without the other. We could not turn the light on if we could not also turn it off. It follows that the very condition that renders the complete exercise of thought impossible to us is also the very condition that enables us to think at all. In any being, then, short of God, the active intellect can no more function, and thought can no more exist, without a potential or passive intellect, than the potential intellect can function and thought take place without an active intellect. Nothing possessed of any trace of potentiality can think unless it has them both.³⁵

But now, the possibility of not thinking, which is a symptom of the invasion of the intellect by the principle of Potentiality and Matter, is associated with the presence of the body and the senses. If we had no body and no vegetative or sensitive soul, there would be no intermission or incompleteness in the activity of the active reason within us. In that case, however, we should not be *we*. We should be neither human nor individual beings. Conversely, the *possibility* of thinking involved in the *possibility* of not-thinking, must also depend upon the existence of a physical organism. Abolish that organism, and the one *capacity* disappears with the other.

The passive intellect, then, without which human beings cannot think, is perishable,³⁶ and does not survive the death of the body. It disappears along with loving and hating and memory,³⁷ imagery, sensation, and physical life, and with it goes discursive thought and all *process* of reasoning.³⁸ All that is left

³⁴ Cf. *Met.*, XII, 7, 1072b, 14 ff.

³⁵ Cf. the ambiguous sentence at the end of *De An.*, III, 5, and also Ross, *op. cit.*, p. 152, on its possible meanings.

³⁶ *De An.*, III, 5, end.

³⁷ *De An.*, I, also IV, 408b, 24 ff.

³⁸ *Ibid.*

is the active reason, which, being free from potentiality of any sort, is *capable* neither of not-thinking nor of thinking, but simply *is* thought. This alone is universal, impassible, separable from the body,³⁹ immortal and eternal. But in that single all-comprehending timeless act of knowledge nothing of *us* is left. Although the truth does not cease to be true when, in the natural course of generation and decay, it ceases to appear in our bodies as mind, *we*, no longer catching its radiance, cease to be minds, and not only our vegetative and sensitive, but our individual rational souls pass out of existence. When the day of creation is at its height, the mountain tops, climbing at last above the darkness that engulfs their base, are touched for a while with light. The sunset comes, and, carried despite their splendor in the motion common to all things of earth, they are swallowed up in the night from which they rise. But the sun is still there, shining on other mountain ranges in distant lands and transforming their peaks also into momentary semblances of itself.

This doctrine is certainly very different from that of the *Eudemus* when Aristotle, still a young man, was seeking consolation for the loss of the friend who fell fighting in Dion's expedition against Syracuse. There, as we may remember, the tone and the arguments of Plato's *Phaedo* are re-echoed, and we find every evidence of a lively belief in personal immortality. But here, in the impersonal eternity of the active reason, Aristotle has reached a point where such belief, if he retained it at all, was on its last legs. Indeed, it is an open question whether the doctrine of the active reason is Aristotle's final word, and whether he did not end by abandoning immortality of any sort. It has been maintained that the separable active reason was a kind of vanishing after-image of the Platonic period in Aristotle's thought, and that the third book of the *De Anima* is earlier than Books I and II, in which the more naturalistic and scientific thesis of the soul's dependence upon the body is emphasized. In that case the views expressed in these books would represent his final opinion on the subject.⁴⁰

³⁹ *De An.*, III, 5.

⁴⁰ Cf. Jaeger, *op. cit.*, pp. 355 ff.

CHAPTER VII

THE DISCOVERY OF THE UNMOVED MOVER

THE active reason must be asked one more question, and that a most important one, before we can dismiss it from our discussion. Is it or is it not to be identified with God? The answer, we might expect, should be affirmative. Certainly, the active reason would seem to possess all the qualifications necessary to an unmoved mover. It is self-existent and self-justified. Its being depends upon nothing outside itself, and it needs nothing beyond itself to fulfill and perfect it. It is absolute Actuality without any taint of Potentiality. And the brief moments in which it reveals itself in us are moments in which we attain our sovereign good and supreme felicity. When we are caught up and rapt away in them, we are admitted to the same kind of knowledge as God enjoys, even if we are not actually made one with him.¹ The active reason, then, is a form of being whose sheer perfection might well cause the whole universe to fall in love with it and to behave itself accordingly. Whatever the other objects of Nature's affections may be, they inspire merely temporary affairs in which she finds no rest and beyond which she immediately passes. But here, in this perfect Form, she should find her true beloved.

That Aristotle did make a God of the active reason was, moreover, the opinion of his disciple Eudemus. To be sure, the Academy as a whole emphasized the naturalistic and scientific side of the Aristotelian teaching and inclined to a materialistic psychology in which the active reason quickly fell into obscurity. But Eudemus' opinion was re-echoed by the great commentator, Alexander of Aphrodisias, whom we ought perhaps to have mentioned in outlining the vicissitudes suffered by Aristotle's writings. And that view has been held and defended by many scholars ancient and modern.

¹ Cf. Webb, *op. cit.*, p. 273.

Still, it is not an easy view to reconcile with what Aristotle has to say about God. If the active reason is God, then our reasons must be regarded as fragments or sparks of the divine intellect, and our moments of intuition, when our minds are one with truth, must be conceived as akin to those moments of ecstasy, preached by the mystics, in which the soul actually becomes and is God. If Aristotle had believed this, we should expect some explicit affirmation of so important a doctrine. But we have none. His nearest approach to it is a statement that the moments in which we apprehend the truth are like the life that God lives eternally.² But this is qualified by the remark that, marvellous as such a life would be, the divine life is even better than that which the active reason confers on us—a state of existence even more wonderful.³ To be sure, the view that God is immanent in us seems to be supported by passages in which Aristotle tries to figure how the universe can have its good both outside and inside itself. In this respect, he tells us, the universe is like an army, which contains its good both as something apart from itself in the person of the general who commands and disciplines it, and as something within itself in the prevalence of discipline and order.⁴ We cannot be sure, however, that this good in either aspect is to be identified with God,⁵ and if it is, we have a supplementary declaration to the effect that the transcendent is much more important than the immanent aspect. Generally speaking, too, the passage is more than counterbalanced by a tendency to regard God as essentially a being outside the natural order.

Furthermore, approaching the question from the side of knowledge, Aristotle would seem to consider the divine mind a highly specialized and pre-eminent instance of active reason. The active reason, apparently, comprehends and is identical with the whole system of Forms. But any Form except the divine Form, any nature except the divine nature, is, we are told, unworthy of the divine contemplation.⁶ The inference is that God is not only unaware of the existence of the sensible world,

² *Met.*, XII, 1072b, 14 ff.

³ *Met.*, *loc. cit.*, 1, 22 ff.

⁴ *Met.*, XII, 10, 1075a, 11 ff.

⁵ *Cf.* Ross, *op. cit.*, p. 185.

⁶ *Met.*, XII, 9, 1074b, 15 ff.

but is also without knowledge of the world of Forms. He knows only himself.⁷

But if the active reason is not God, what is it? And if God is not the active reason, what is this divine nature to which his knowledge is confined? The first question has been answered by the supposition that Aristotle regarded the active reason as a form of being intermediary between the human and the divine intellect. At the hands of the Arabian commentator Averrhoes this supposition was expanded into a multiplicity and hierarchy of reasons, culminating in an impersonal active reason, participation in which gives knowledge of God and union with him. And in one form or another this theory of the active reason as a mediator has found favor also with many modern interpreters.⁸

The second question, Aristotle himself answers somewhat as follows. In any exhibition of active reason, there is complete identity between the knower and the known. The divine nature, which is perfect intellect and knowledge, is nothing but what it thinks.⁹ There can be in it no unrealized residuum of capacity for thought, for in that case its thought might grow weary and flag.¹⁰ Moreover, were there potentiality, there would be change, and any change in a thought already one with "that which is most divine and most precious . . . would be change for the worse." Again, looking at the matter from another angle, any potentiality in the divine thought could not be actualized in anything inferior or superior to itself. For thinking about anything inferior would be unworthy of a divine intellect, and would derogate from its perfection; and thinking about anything superior to the highest and the best—which God is by definition—would be a contradiction in terms.¹¹

Now the nature of thought is determined by the object of thought. Thinking emptied of its objects is nothing. The nature, for example, of the thought of the human Form or of the

⁷ For a discussion of these difficulties *cf.* Zeller, *op. cit.*, I, pp. 397 ff.; Ross, *op. cit.*, pp. 182 ff.

⁸ *Cf.* Webb, *op. cit.*, p. 272; Ross, *op. cit.*, p. 153.

⁹ *Met.*, XII, 9, 1074b, 25 ff.

¹⁰ *Ibid.*, 1074b, 35 ff.

¹¹ *Ibid.*, 1074b, 15 ff.

definition of the triangle is no more and no less than that Form or definition and is nothing else. The nature of God's thought, then, cannot be determined by any Form except his own. For if other Forms helped constitute his knowledge, his thought and his nature would not be simple but composite.¹² And if he thought of Forms different from his own, he would of necessity be thinking of something inferior to himself. The divine intellect, then, which is the quintessence of thought, can only deal with "that which is best in the fullest sense," or in other words with itself.¹³

But if we take away the system of Forms which makes up the body of truth and knowledge and the active intellect, will there be anything left as a matter of fact to constitute the divine self? Shall we not have completely emptied the divine nature? Will not a God of this sort be really thinking about nothing and in the condition of one asleep?¹⁴ We would seem to be cornered between the devil and the deep sea.

In struggling with this difficulty, Aristotle apparently deviates somewhat from the teaching in the *De Anima*. There, we may remember, he insisted that the intellect had no Form of its own apart from the system of Forms it entertained, and that the self of which it was also conscious in thinking the Forms was nothing but those Forms.¹⁵ Here, however, we come upon an exception to the rule. In us, the consciousness of the fact that we are thinking accompanies the consciousness of some further fact that we are thinking about. In the divine mind, this further fact is not necessary, and the fact that he is thinking—not about this, that, or the other Form, but about just thinking—constitutes the self of which God is conscious, and to which his consciousness is confined. He can know what knowing is, without being also distracted by the multiform character of what is known. This pure activity of knowing, uncomplicated by the presence of any further Form, is the object of the divine knowledge and the Form that constitutes the divine intellect. In God, Aristotle concludes, "it must be itself that thought thinks

¹² Cf. *Met.*, XII, 9, 1075a, 6 ff.

¹³ *Met.*, XII, 7, 1072b, 18 ff.

¹⁴ *Met.*, XII, 9, 1074b, 15 ff.

¹⁵ Cf. *supra*, pp. 126–127, 129–130.

(since it is the most excellent of all things) and its thinking is thinking on thinking.”¹⁶

Our long search is now at an end. The Unmoved Mover, the final cause that “produces motion by being loved,”¹⁷ which we have hunted so long up and down the universe, has at last been found. The discovery is proclaimed with enthusiasm in a paragraph of comparative splendor, written in a manner unusually grand for Aristotle. “On such a principle,” he intones, “depend the heavens and the world of nature. And its life is such as the best which we enjoy, and enjoy for but a short time. For it is ever in this state (which we cannot be), since its actuality is also pleasure (and therefore are waking, perception, and thinking most pleasant, and hopes and memories are so because of their reference to these). . . . If then God is always in that good state in which we sometimes are, this compels our wonder; and if in a better state, this compels it yet more. And God *is* in a better state. And life also belongs to God, for the actuality of thought is life, and God is that actuality; and God’s essential actuality is life most good and eternal. We say therefore that God is a living being, eternal, most good, so that life and duration continuous and eternal belong to God; for this *is* God.”¹⁸

Phrases like these, however, fine as they were, could not conceal the weaknesses of such a theology. Philosophically considered, many immediate difficulties presented themselves. It was all very well to say that God was just thinking about thinking, but the question persisted—thinking about thinking *what*? With the best will in the world one could not very well make a feast of reason unless one had something to chew other than one’s own chewing. Moreover, waiving this difficulty and supposing that a divine mind could exist hermetically sealed from knowledge of all Forms and essences save its own, such a being and such knowledge could only be described, like the supreme reality of the mystics, in purely negative terms. It would be nothing that any category of our experience could fit. At the same time, being nominally still rational, it would lack the positive, super-rational and ineffable character that supposedly

¹⁶ *Met.*, XII, 9, 1074b, 32 ff.

¹⁷ *Met.*, XII, 7, 1072b, 3.

¹⁸ *Met.*, XII, 7, 1072b, 12 ff.

makes Nirvana or the Plotinian "One" more than compensate for the negation of everything we can understand or hold dear.

To get round this difficulty and to give to this ruminating upon rumination some sort of intellectual cud that would not at the same time confuse the divine with the active intellect, St. Thomas Aquinas thought out a brilliant scheme. In our exercise of the active intellect we are conscious primarily of the Forms that constitute our knowledge, and only secondarily of the activity of knowing in itself. In the divine intellect it is just the opposite. God knows himself first, and the self that he knows is the pure act of knowledge, as Aristotle maintained. But in knowing that self, he also knows *incidentally* all the other objects of knowledge, and thus escapes the absolute seclusion to which Aristotle had retired him.

Many other commentators, medieval and modern, adopted this device.¹⁹ But it is a sound criticism rather than a safe interpretation of Aristotle's views, or at the most it is an attempt to pull the chestnuts out of the fire for him. It is probably safer to leave the doctrine as he states it and not attempt emendations.²⁰

The theory of the hermetically sealed God, as critics have also pointed out, affects not only the divine mind but the divine power, and makes it difficult to conceive him as filling the all-important part of Unmoved Mover. The most serious and disqualifying charge is that, if the Unmoved Mover is so shut away from the universe as to be totally unaware of its existence, it is difficult to see how the universe can be in any way aware of God, not to speak of being thrilled and moved by the appeal of his perfection. Aristotle, to be sure, tries to establish some sort of quasi-physical contact between God and the outer heaven, and almost goes so far as to "locate" him outside the universe.²¹ But this tends to increase confusion rather than clearness. Finally, supposing that the world could be brought within the range of God's attraction, it would still be a question whether the love of the world for God and the

¹⁹ Cf. Ross, *op. cit.*, *loc. cit.*; Zeller, *op. cit.*, I, p. 402, n. 1, also pp. 413 ff.

²⁰ Cf. Ross, *op. cit.*, *loc. cit.*; Zeller, *op. cit.*, *loc. cit.*

²¹ Cf. Zeller, *op. cit.*, pp. 407 ff.

universal yearning of the potential to become actual ought not to be regarded as the real efficient cause of motion. If so, the efficient cause would be divorced from the formal and the final causes and would ally itself with Matter.

On religious grounds, also, Aristotle's theology has been severely taken to task. We must admit that his God is, to say the least, an austere object of worship. Regarded merely as an ideal and as a beloved whom one is content to adore at a distance, such a being can with difficulty be conceived as moving the world's heart or even its head. For it is not easy to dismiss sensation and passion and emotion and their attendant pleasures from the picture of a divine experience, and it is still harder to leave out of it the omniscience for which the human intellect yearns. Our normal vision of God must, then, go largely blind, if we are to see in the divine life as Aristotle describes it an adequate portrait of that "life pleasantest and best" which we feel a truly desirable God should lead.

Incidentally, the Epicureans, whose Gods may perhaps be regarded as the most legitimate heirs of the Aristotelian deity, tried to correct these defects. Their Gods inherited the consummate ease of his life, and were even more completely retired from active participation in the affairs of the world. They were freed not merely from efficient causation but from final causation as well. They did not so much as influence by attraction a universe now conceived as mechanical in its workings. Not only were they unmoved, they were not even movers. In short, the tangle of the moral and the scientific in Aristotle's thought was deftly unsnarled, and the true office of God in a mechanical order—that of intimating that a happy and perfected life can be lived in a mechanism—was revealed and clarified.

At the same time, now that they were altogether freed from the bondage of scientific duties, the Epicurean Gods could realize more completely than their parent the blessings of a perfected life, and could display a greater lavishness of moral excellence. They applied their increased patrimony to uses of which Aristotle would not allow its founder even to dream—to feasting and laughter and living for life's sake and to all

else that enriches and embellishes human existence. And so, in the perpetual calm of the interstellar spaces which they inhabited, "far beyond the flaming ramparts of the world," they enjoyed a life more consistent with our ideal of what perfected life, "pleasantest and best," would be.

The function of God in religious experience is not exhausted, however, by his dramatization of the ideal of attained perfection after which we strive in vain. The worship, just for its own sake and without thought of grace or favor in return, of such a perfection lifted clear of all the evil and sorrow and suffering of the world may indeed be, as Spinoza intimated, the highest and most unselfish act of which the human soul is capable. And in Greece the nobler aspects of the established cult had tended to become an uplifting of the heart towards the vision of a happy, deathless, and untroubled life, which held and sustained its worshippers by the love of its sheer goodness and beauty. The Olympian Gods did the better part of their work as unmoved movers.

But the fact remains that perfection, however attractive the vision of it may be, is far from being realized in the universe, and seems quite beyond our reach unless the Gods come to our rescue. The world in which we live is in constant need of salvage and repair, and our own struggles and miseries, being beyond human aid, require supernatural comforting and cure. The religious value of any God will lie, then, largely in the reciprocal interest he shows in us, our affairs, and our needs. He must be not only an unmoved mover untouched by imperfections, but a moved mover as well, stirred by compassion for the weakness and the misery of the finite creature, and bestirring himself actively in our behalf. This of course introduces a self-contradiction into the idea of God, which defies intelligence though it does not disturb the religious instinct. In Greece the need of a redemptive deity who shared our sufferings and even our death partially unfolded itself in the Eleusinian and the Orphic mysteries. And, thanks to the flexibility of a polytheistic system, the Greeks were able to avoid the inherent contradiction by assigning the redemptive function to other Gods than those who lived the serene Olympian

life. In Christianity the demand came to its full flower in the preaching of a divine being who was not only worthy of being loved and worshipped by the world as its transcendent sovereign good, but himself so loved the world that to save it he deliberately willed to lay down his life for it. Here the paradox of a perfect being tasting to the last drop the bitterness of imperfection was countered, less successfully, perhaps, by the doctrine of a Trinity of persons within the Godhead, one of whom took upon himself the work of salvation, while another on the whole preserved, though not altogether consistently, the untroubled, perfected character of the divine existence.

So far as the redemptive side of the idea of God is concerned, the Aristotelian deity must of course be definitely counted out of the picture. Apart from the fact that if he experienced emotion he would not be unmoved, he could scarcely be expected to have any feeling for a world of the existence of whose sensible and particular aspects, including individual human beings, he was certainly unaware, and even of whose purely formal and intelligible structure he was probably without knowledge. To a God of this sort we can look for no act of self-sacrifice. Nor can we expect from him any providential direction of human or mundane affairs, any administration of justice, any proportionment of reward to merit. As a matter of fact all such concepts are signally absent from Aristotle's theology.²² Indeed, his God cannot be described as personal, or as self-conscious in more than the most formal way, or in any sense of the word that means anything to us.²³

In these circumstances it may seem peculiar that the medieval Church, after some backing and filling, finally accepted Aristotle as her official "guide, philosopher and friend"; especially as she had rejected Plato because she suspected him of holding unsound views about the resurrection of the body.²⁴ That she apparently preferred a man who did not even believe in personal immortality or in a personal God was due largely to the good offices of the Arabian go-betweens who had made the match. She knew her Aristotle mostly through Latin

²² Cf. Ross, *op. cit.*, pp. 183 ff.

²⁴ Cf. Taylor, *op. cit.*, p. 50.

²³ Cf. Zeller, *op. cit.*, I, pp. 399 ff.

translations of Arabic translations of the original Greek, which at the time she had not the interest, the learning, or the means to verify.²⁵ And her knowledge was further garbled by glosses and interpretations that presented him as a possible and even a desirable *parti*. The discovery of the true character of the man for whom she had thrown over Plato, and with whom she had been living for some three hundred years in happy if somewhat sinful ignorance, was one of the annoyances to which she was subjected by the revelations of the Renaissance.²⁶

All this criticism of Aristotle from the point of view of the philosophy of religion, though sound enough, is not altogether fair. For the mature Aristotle was not a particularly religious man, and the God he preached was not a particularly religious God. Aristotle was pre-eminently a scientist, and his theology drew but a minor part of its inspiration from moral and emotional needs. In fact, his theology was not at heart a theology at all, as we understand the term. It was an extension of his physics, oriented almost entirely by the necessities of astronomy and mechanics. He had to find a first cause of motion, or in other words an unmoved mover, such as would explain, not only the initial revolution of the outer heaven through which astronomical movement is communicated to the rest of the universe, but also all the other phases of that actualization of the potential in which the essential nature of motion consists. He probably cared little or nothing about the religious values of this cause, provided it fulfilled his scientific requirements. And it was in a sense an accident that the Unmoved Mover turned out to be an intellect of sorts and to live a life to which moral categories like "good" and "pleasantest and best" could be applied; although of course, in another way, this followed logically enough from the teleological nature of the Aristotelian astronomy and physics.

In any case his deduction of the existence and the character of his God was strictly scientific in intention. His theory that

²⁵ Cf. Sandys, *Hist. of Classical Scholarship*, 2nd ed., I, ch. XXX, pp. 561 ff.

²⁶ Cf. Sandys, *op. cit.*, II, pp. 109 ff.

movement must be eventually imparted by final causation, and that God moves the world as the beloved moves the lover, has, to be sure, been stigmatized as a relapse into the "poetic metaphors" of which he accused Plato.²⁷ But the metaphor certainly hits a truth that the less poetic arguments of more avowed theologians frequently miss. Aristotle saw clearly the only conditions under which a cause of motion can consistently and logically be called "first" and "unmoved." The general difficulty of conceiving a first cause as efficient and creative was spotted unerringly by the little girl who asked, "But, mother, who made God?"—a question that dogs unceasingly the so-called cosmological arguments for the existence of a deity. More specifically, a true *first* cause cannot cause mechanically by pushing or pulling, for whatever can shove can also be shoved, and so on *ad infinitum*. Nor can it create by *fiat*, since in that case it is moved by desire, and the object of desire becomes the real and the first cause of its creative movement. Given, then, the necessity of a first cause of motion, Aristotle was admirably scientific in his description of the way in which it operated. Indeed the only logical alternative to his position would seem to be the materialistic and mechanical hypothesis that the existence of motion requires no explanation, but must be regarded as an ultimate and primary fact behind which we cannot go.

Again, once having seen that any really first cause of motion can move by attraction only, Aristotle worked out in a perfectly scientific manner what the nature of such a cause must be like. Here his way was smoothed by his anthropocentric view of the universe and by his doctrine of the actual and the potential. And conversely, this doctrine, and his ability to express it in a hierarchy of existence culminating in man, received in their turn confirmation from the results of his reasoning. Obviously he must locate somewhere a form of existence that was wholly free not only from physical but from psychological disturbance or conditioning of any sort. He must find an activity that reached neither backward nor forward for its support, that could be made out of nothing but itself and made

²⁷ Cf. Taylor, *op. cit.*, p. 51.

into nothing but itself, that existed, in a word, in, of, by, and for itself alone. Or, to put it in terms of the actual and the potential, he must discover something that contained and realized within itself everything necessary to its existence and its fulfilment, and that therefore could be described as pure Actuality without taint of Potentiality.

Looking about him in a strictly scientific spirit for such a form of being, he found in his astronomy very nearly what he needed. The heaven of fixed stars was imperishable and unchangeable, and was freed from all potentiality save the inoffensive possibility of "whence" and "whether" actualized by its uniform motion. Its exalted substance outranked so much of animate Nature, even, as was endowed with only vegetative or sensitive soul; and, had it not been for man, it would have been the nearest approach to, and the clearest intimation of the nature of an unmoved mover that the universe afforded. In man, however, Aristotle found traces of exactly what he wanted. Human thoughts were not modifications of the body as our sensations were. They were not associated with special bodily conditions, and they were independent of the existence of any particular organ. They could not occur, to be sure, unless the body were there, but their attachment to it had been whittled down to the vanishing point, and their actual natures were not physical qualities, such as perception actualizes, but immaterial and unchangeable Forms. Moreover, in moments of intuition, our thinking seemed to reduce even its awareness of the body, of sensation and imagery, and of emotion to the vanishing point. It kicked them from under, as it were, and "levitated" without any appreciable support from below, floating of itself, or at least merely suspended from the truth which it contemplated and with which for the instant it was one. Such moments, too, were moments of absolute rest from which even the possibility of mental "whence and whither" had disappeared. When the intellect was thus poised for an instant, it was at a dead centre, so far as any external power was concerned. But it was also at the centre of its own most intense and perfect life. It asked for nothing more and could become nothing more than the truth that arrested it,

held it motionless, gave it existence, and made it what it was.

Another step and an entity that could function as an unmoved mover was at last in Aristotle's grasp. Only imagine the almost severed connection of the intellect and the body wholly broken, make eternal its fleeting instant of intuition and achievement of Form, and confine that Form to its own essence alone, and the goal was reached. Aristotle had now a form of being, the example of whose perfect actuality was sufficient to set every degree of potentiality in the universe going, from the operations of the human mind and the stately "whence and whither" of the outer heaven to the crude capacities of prime matter. Such a being was a combination of metaphysical catalyzer and magnet. Its mere presence set up a commotion in which it took no part and by which it was unaffected, but a commotion, nevertheless, that converged from every side unerringly towards itself. All this was strictly scientific according to Aristotle's lights, as scientific, indeed, as the reasons that lead modern physicists to the construction of electrons or point-events. Indeed, though his theory may stretch the imagination the wrong way, it stretches it no more than do our modern scientific hypotheses to-day. That it led him to a God of sorts, but to a God who at the same time was disqualified from functioning religiously, was neither here nor there. As a scientist he was satisfied, and that was all that counted.

But, unfortunately, he was not wholly satisfied. Two difficulties remained to bother him. In the first place, his hypothesis regarding the nature of motion and the character of the Unmoved Mover, would lead us to expect a much more smoothly running universe than that which we actually find. Where everything is moved by the example of absolute Actuality, we should expect all things to be at least as good as they can be after their kind. It might be no disappointment that in such a system geese were not swans, but they ought at any rate to be good geese.

Such a condition was, to be sure, realized in the universe outwards from the moon. The heavenly spheres ran without stopping on all cylinders, did everything they were capable of

doing, and did it perfectly. But on earth things were quite different. Nothing was perfect after its kind. Everything was an inferior example of its species. Terrestrial affairs jolted and rattled and squeaked like an outworn Ford, in pitiful contrast to the music of the Rolls-Royce spheres. In short, Aristotle had to deal with that air of idiocy, frequently enlivened by moods of criminal insanity, with which any argument for or from design invests the face of Nature. Here was something for which neither the attraction of the Unmoved Mover nor even the mechanical motion imparted by the outer heavens could account. How, then, was it to be explained?

Aristotle was not at a loss for an answer. As we intimated in discussing his biology,²⁸ he found in the character of Potentiality as such the root of all that we consider evil and imperfect in Nature. Shortcomings of this sort sprang from the possibility of doing the other thing, or of doing nothing at all, that the definition of potentiality as opposed to actuality implied.²⁹ The possible negative alternative acted as both a brake and a deflector upon every terrestrial process, and retarded and deformed it in ways that frequently rendered life inconvenient, painful, and even dangerous for the very beings whom the system was supposedly aiming to produce and support.

This element of seeming antagonism, or at the best, of indifference to purpose displays itself in two ways. On the one hand the direct accomplishment of both the conscious desires of man and the unconscious designs of Nature meets with obstacles inherent in the structure of the world, which, although particular causes and reasons for their existence can be found, seem to interfere seriously with the general aims of the natural process. Neither we nor Nature can do just what we want, or do it in the quickest or the best way. In such cases we speak of the limitation of purpose by "blind" and harsh *necessity*.³⁰

On the other hand the carrying out of design is frequently

²⁸ Cf. *supra*, pp. 98-99.

²⁹ *Phys.*, I, 9, 192b, 15. *Met.*, IX, 9, 1051a, 7 ff. Cf. Zeller, *op. cit.*, I, pp. 367 ff.; Ross, *op. cit.*, p. 186 note.

³⁰ Cf. Zeller, *op. cit.*, I, pp. 379 ff.

tripped up by the occurrence of *chance* or unpredictable events. Many such events, to be sure, are due to the collision and interlocking of separate causal processes, any one of which taken by itself is calculable. Thus, if a man goes for an afternoon's sail in Phaleron Bay and is carried off to the neighboring island of Aegina by pirates, or is wrecked there by a storm, he is then in Aegina by chance. For, although all the factors concerned may have perfectly good explanations, and be predictable in themselves, their coincidence and his resultant misfortune are to all intents and purposes unpredictable.³¹ When design is flouted in this way, we have cases of coincidence or luck.

But in addition to chance of this sort, Aristotle seems to believe in a metaphysical factor of absolute chance or spontaneity, by which events and things are generated without cause or purpose and wholly unpredictably. Such occurrences are the reverse of necessary and are completely contingent, but they may interfere with the aims of Nature as seriously as do the limitations of necessity.³² The existence of this element of contingency in Nature Aristotle also tried to attribute, perhaps not altogether successfully,³³ to Potentiality and Matter.³⁴

The moral dualism involved in such an explanation of evil and imperfection cannot be avoided. But in justice to Aristotle we must say that it has been reduced to a minimum in his system. In Potentiality and Matter, as he tried to conceive them, there is no positive or active resistance to purpose. There is no principle of evil in the universe, no malevolence, no such thing, for example, as the evil world-soul towards which Plato at one time seems to have been drifting in the *Laws*, and no such thing, even, as an intractable matter in the sense of something *essentially* opposed and recalcitrant to the taking on of Form. Potentiality is responsive to good influences, and the only influence in the universe is for the good. It means well, for all intention is motivated by the Prime Mover. It is

³¹ *Met.*, V, 30, 1025a, 25 ff.

³² Cf. Zeller, *op. cit.*, I, pp. 362 ff.; Ross, *op. cit.*, pp. 80 ff., 164, 188.

³³ Cf. Ross, *op. cit.*, p. 77.

³⁴ Cf. Zeller, *op. cit.*, *loc. cit.*

never actively disobedient to the heavenly vision. It does its best to act in accordance with it. Its only inclination is to perfect itself. But it is weak and fluid. It has no chin or backbone. And this purely negative element of negation, or rather of the possibility of negation, makes it a dead weight in the scheme of things, and malforms and vitiates to some extent every particular thing it does.³⁵

But Aristotle had yet another correctional problem on his hands. The behavior of the heavenly bodies also gave him some anxiety, and accounting for that was quite a different matter. That things went wrong on earth might be explained by the inability of the Potential ever to do the right thing to such a pitch of perfection that the possibility of not doing it was wholly excluded. But the stuff of which the heavenly bodies were composed was actually free from this debilitating possibility. It could not be other than it was. It could only be elsewhere. Such potentiality as it possessed was not, then, of a sort to act as a brake or a deflector. If anything, it only made the world spin at top speed from "whence" to "whither" at a rate, and with the perfect, spherical motion, calculated to keep it in constant touch with the Unmoved Mover. In this respect no fault could be found with any of the spheres. Their circular movement was the closest possible approach that physical Nature could make to the absolute rest of the First Cause.

A sphere, however, can be revolved in all sorts of directions, all of which are equally consistent with perfection of movement and with complete responsiveness to the attraction of an unmoved source of motion. Still, if all celestial motion were inspired by a single cause, we should naturally suppose that it would be uniform throughout. As a matter of mechanics, the revolution of the outer heaven could impart only its own direction to the inner spheres. And theologically speaking, we should expect love of the same mover, other things being equal, to revolve all the spheres in the same direction. As a matter of fact other things were equal. The inner spheres were identical in form and matter with the heaven of fixed stars. Their only difference was the accident of size. Moreover, they ran without

³⁵ *Met.*, V, 30, 1025a, 25 ff.

friction, without wobbling, without alteration of velocity or direction, just as the outer heaven did. And they were carried in its revolution, and thus seemed to participate in its act of devotion to the origin of its movement.

Nevertheless, we were confronted with the unfortunate and perplexing fact that they interpolated into the general revolution of the whole system particular revolutions of their own at variance both with it and with each other. Each sphere went its own way, and the system as a whole went every which-way. Only on the hypothesis of such contrariness could the observed, untoward movements of the planets and of the sun and the moon be explained. Otherwise, Aristotle's whole astronomical system was bound to come tumbling about his ears. How, then, was this difference of direction in the movements of the several spheres to be explained? As things stood, neither the sphere of the fixed stars nor Matter could account for it. An apparent surd had arisen in Aristotle's calculations.

The problem was perhaps all the more difficult as it seems to have been a child of his later years, born of his dalliance with astronomy at a time when his metaphysics was well grown and fairly set in character. The solution, too, might seem at first glance to involve a difficult and well-nigh impossible rearrangement of his thought. Yet it was obvious, and stared him in the face even more disconcertingly than did the difficulty. Plainly, if celestial movement was inspired through and through by purpose, then the planets and the sun and the moon and the outer heavens were all running at cross-purposes to each other. But if they were running at cross-purposes, they could not be actuated by the same end and be in love with the same beloved. The carriage of the inner spheres in the revolution of the sphere of the fixed stars was purely mechanical and accidental.³⁶ Their true loves lay in other directions. Only their peculiar individual revolutions were teleological and inspired by a final cause. In that case, each sphere must have its particular cause of motion, or, to put it bluntly, must be running after its own private God. As fifty-six varieties³⁷ of

³⁶ *Phys.*, VIII, 6, 250b, 28 ff.

³⁷ Including the movement of the outer heavens.

motion, all equally spherical and perfect, were necessary to explain the celestial mechanism, there must be not one but fifty-six Unmoved Movers.³⁸

These results of his interest in astronomy can scarcely have been welcome to Aristotle. It is not likely that he had any particular religious prejudice in favor of monotheism, but so exuberant an outburst of polytheism must have been scientifically embarrassing, at any rate till he had time to collect himself. It was a cardinal point for him, as for all philosophers and scientists, that entities must not be multiplied beyond necessity, and he had, as he thought, reduced this necessity to one principle, or at the most to two if Matter were regarded as positive. Indeed, he had brought with a certain flourish his discussion of the Unmoved Mover to an end by quoting a line from Homer: "The rule of many is not good; one is the ruler."³⁹ Yet here he was, compelled by inexorable science to submit his universe to many rulers, and forced not beyond, but by, necessity to multiply by fifty-six the one first principle, "on which," he had so sonorously asserted, "depend the heavens and the world of nature."

Moreover, now that astronomy had wished all these Gods upon him, it must have been, as some commentators have pointed out,⁴⁰ a question how he was ever to know them apart. The principle of their individuation could not very well be Matter, which accounted for the multiplicity of mundane substances, for an unmoved mover must be pure Actuality and Form, entirely devoid of Matter. But on the other hand how could there be more than *one* case of pure Actuality, since the existence of *many* cases of anything whatsoever was due to the presence of Potentiality.⁴¹

Apart from this difficulty, however, what was the relation of these new-found Gods to the original Unmoved Mover? Some critics have maintained that Aristotle tried to arrange them in a hierarchy, perhaps according to the position of their

³⁸ *Met.*, XII, 8, 1073a, 33 ff., 1074a, 17 ff. Cf. *Phys.*, VIII, 6, 258b, 10 ff.

³⁹ *Met.*, XII, 10, 1076a, 5. Cf. *ibid.*, II, 204.

⁴⁰ Cf. Jaeger, *op. cit.*, pp. 377 ff.

⁴¹ Cf. Jaeger, *op. cit.*, *loc. cit.*

spheres, with the mover of the outer heaven at their head.⁴² The temptation to do so must have been great, for in this direction lay at first glance the easiest way out of a difficult situation. Furthermore, it was a way suggested to him by the Platonic "lesser gods," the souls of the stars, old friends of his youth, whom he had adopted into his system in the days when he wrote his treatise *On Philosophy*.⁴³ There they had played parts quite subordinate to the one and only God, little dreaming that they, too, might be some day promoted to leading rôles.⁴⁴ They needed, indeed, only to be taken out of their stellar bodies and made both transcendent and independent, to become cases of pure "thinking about thinking," each one of which might inspire its particular sphere with the same love as the original Unmoved Mover inspired in the heaven of fixed stars. Aristotle seems to have effected their transformation and invested them with their new dignity by the time he wrote the eighth chapter of Book XII of the *Metaphysics*. This, incidentally, is perhaps a late meditation inserted by some compiler—with or without a sense of humor—into the midst of an earlier, gravely monotheistic discourse.⁴⁵

But Aristotle can scarcely have failed to see that by promoting these "lesser gods" to leading rôles he had deprived himself of any criterion for arranging them in a hierarchy and for making invidious comparisons between them and the mover of the outer heaven. There was no external ground, unless it were the size of the sphere each one moved. But to estimate the degree of the beloved's charms by the comparative girth of the lover was obviously absurd, and in any case, even the existence of the moved, let alone the measure of its circumference, was irrelevant to the existence and the perfection of the mover. Internally, however, there was as little reason for differentiating the Unmoved Movers in point of dignity. Each one, be it the mover of the fixed stars, or of the sun or the moon, was an equally unmoved mover, and must fulfill to the same degree the specifications of a First Cause of motion. Each was intrinsically as actual, as self-existent, as self-realized, as perfect, and

⁴² Cf. Ross, *op. cit.*, pp. 81, 153.

⁴⁴ Cf. Jaeger, *op. cit.*, *loc. cit.*

⁴³ Cf. Jaeger, *op. cit.*, p. 372.

⁴⁵ Cf. Jaeger, *op. cit.*, pp. 368, 383.

as profoundly sunk in "thinking about thinking" as any other. None was afore, none after. There was really no easier way out of it. By every token of astronomy and logic, the glory of the Fifty-Six was co-equal; the majesty co-eternal.

It is simpler, more creditable to Aristotle's intelligence and honesty, and perhaps more in accordance with the facts, to suppose, as other critics have done,⁴⁶ that there came a time in the development of his system when he saw that he must leave the question of the Unmoved Mover open. That he hoped to find a single cause for all motion is obvious. That at one period he thought he had done so is no less clear. Later, came the doubts aroused by the results that flowed from his adoption of Eudoxus' astronomy. These doubts, though at first sight they may have disconcerted him, need not have been so very upsetting when he began to reflect upon them. A plurality of Unmoved Movers complicated his system, to be sure, and created difficulties like that of individuation. But it did not threaten his philosophy at any essential point. Motion was explained. That was the all-important thing. He had proved the existence and described the nature of its cause. Whether its cause was single or multiple made no great difference.⁴⁷

He could, then, leave the question undecided without any wrench to his essential convictions. He could, indeed, die happy leaving it unanswered. And this apparently he did. Eudemus, to be sure, affirmed explicitly that, in his later years at any rate, Aristotle came to a definite decision that there were as many First Causes of motion as there were spheres.⁴⁸ And it has been remarked that the suggestion of the possibility of many Gods, which we find so inappropriately sandwiched into the monotheistic theology of the twelfth book of the *Metaphysics*, may have strayed there from later theological speculations, now lost, in which the polytheistic hypothesis was adopted.⁴⁹ But the last extant assertion we have of Aristotle's on the subject is one of doubt tempered, perhaps, by a hope of eventually finding a solution.⁵⁰ Since motion is everlasting and

⁴⁶ Cf. Jaeger, *op. cit.*, pp. 366 ff.

⁴⁹ Jaeger, *op. cit.*, pp. 379-380.

⁴⁷ Cf. *Phys.*, VIII, 6, 258b, 10 ff.

⁵⁰ Cf. Jaeger, *op. cit.*, pp. 383-384.

⁴⁸ Jaeger, *op. cit.*, pp. 391-392.

continuous, there must be, he reasserts, a first, unmoved cause of movement, "whether that cause be one or more than one."⁵¹ This attitude of scientific caution and open-mindedness on his part we may fitly imitate by an unwillingness to rush in where "the master of those who know" feared to tread, and by refusing to hazard any definite reply to the comparatively unimportant question whether Aristotle was a monotheist or a polytheist.

⁵¹ *Phys.*, VIII, 6, 258*b*, 10 ff.

CHAPTER VIII

THE ARISTOTELIAN LOGIC

IN seeking to determine the nature of the universe and of its Mover, it was inevitable that a man of Aristotle's methodical temperament should be led to reflect also upon the character and discipline of the mental processes by which he arrived at his conclusions. His thoughts were crystallized in language which had a grammar and could only be expressed in nouns, verbs, adjectives, adverbs, prepositions, and other parts of speech, limited in number and definite in character. Furthermore, his argument both with himself and with others had to be carried on along hard and fast lines from which there could be no deviation if his conclusions were to carry weight. Behind these grammatical and forensic necessities there must be an inflexible structure of some sort which thinking was obliged to embody if it was to make sense and to present the truth. It was, then, of the utmost importance to any line of investigation that this structure should be discovered and applied. Aristotle went at the task with the same thoroughness as marked the rest of his labors, and produced a *Logic* that not only is the first systematic work of its kind in European philosophy, but also, after some twenty-four hundred years, still ranks as an all-important contribution to the subject. Indeed, no work of his, unless perhaps it be his *Ethics*, has had so great and so persistent an influence upon later thought.

It was naturally the "parts of speech" employed in philosophizing that were suggested to him most directly by his metaphysical speculations. He found himself talking about "Being," about the One and the Many, about Form and Matter, about the Actual and the Possible, about Movement and Change and their Causes. But terms like these cloaked others more fundamental. "Being" could obviously be used in many

senses. There could be one or many this, that, or the other. Were Form and Matter nouns—that is, things or substances—or were they adjectives or, in other words, attributes of substances? Movement and Change could scarcely be described without reference to time and place, and they also “did” something to something that was “done by.” Plainly, then, discussion involving these concepts was carried on in terms of more precise and rigid “parts” of thought. In defining these “parts” Aristotle was much influenced by the exigencies of grammar, although he recognizes only two parts of speech, the noun and the verb, and makes no hard and fast correlation of grammatical distinctions with his “categories,” as he calls them.¹ To his mind they are simply the final pigeon-holes in which single words, taken in themselves, and uncombined in the form of propositions, may be docketed.²

The number of these categories is given as ten, and in a probably later work as eight. The longer list is as follows: substance, quantity, quality, relation, place, time, position, state, action, and affection. “To sketch my meaning roughly,” Aristotle continues, “examples of *substance*,³ are ‘man’ or ‘horse,’ of *quantity*, such terms as ‘two cubits long’ or ‘three cubits long,’ of *quality*, such attributes as ‘white,’ ‘grammatical.’ ‘Double,’ ‘half,’ ‘greater’ fall under the category of *relation*; ‘in the market-place,’ ‘in the Lyceum,’ under that of *place*; ‘yesterday,’ ‘last year,’ under that of *time*. ‘Lying,’ ‘sitting’ are terms indicating *position*; ‘shod,’ ‘armed,’ *state*; ‘to lance,’ ‘to cauterize,’ *action*; ‘to be lanced,’ ‘to be cauterized,’ *affection*.”⁴ From the other list,⁵ *state* and *position* are omitted, perhaps because he had cause to feel that they were not so irreducible as he had at first supposed.⁶

The most important and indeed the “key” category is *substance*, for obviously unless there were *things*—nouns—a grammar both of language and of thought would not exist. All the other categories presuppose the presence of this *something* if they are to make sense. For without anything to be “long,”

¹ Cf. Ross, *op. cit.*, p. 22.

² *Cat.*, 2, 1a, 16 ff.

³ The italics are mine.

⁴ *Cat.*, 4, 1b, 25 ff. *Top.*; I, 9, 103b, 21–23.

⁵ *An. Post.*, I, 22, 83b, 15 ff.

⁶ Cf. Ross, *op. cit.*, *loc. cit.*

or "white," or "greater," or "here," or "now," or "sitting," or "armed," or "doing," or "being done by," these terms are left hanging.⁷ *Substance*, as we have already seen, Aristotle uses in two ways. Its first and wholly accurate meaning is *particular things*. All substance is individual. But, we may remember, the individual as such is not an object of knowledge.⁸ We do not know anything about a substance until we can tell *what* it is. To tell what it is is to classify it and give it a family name. To say "Socrates is Socrates" throws no light upon Socrates' nature and leaves me still in the dark. It merely restates the fact that Socrates is there waiting to be investigated. Only when I say "Socrates is a man," do I begin to know him. Hence the narrowest and most confining class, or, as it is technically called, the *infima species* is as near to the individual or true substance as knowledge can get. So far, then, as knowledge is concerned, the *infima species* counts as substance, and Aristotle, recognizing this, confers the title upon it by courtesy.⁹ Naturally, it is only with this extension of the term to cover the smallest and closest class in the nest in which every individual is enclosed that logic can be concerned.

Substance, implied as it is in the use of other categories, has certain marks of superiority. Thus, primary substance can never be a predicate, or be *in* a thing in the sense of depending upon that thing for its existence. It is rather the subject to which all predicates are attached and in which they inhere. Then, too, the immediate species and even the wider genera are not predicable in the sense that ordinary qualities are. Each *species* is the set of qualities that is found *only* in a given set of individuals, and that therefore betokens the *kind* of thing these individuals are. Socrates, for example, is not a man in the same sense that he is white or a biped. For his distinctively human quality he shares only with other men, whereas he is a biped in common not only with men but with birds. And, so far as whiteness is concerned, not all men are white and many other things besides men are. The qualities that set apart

⁷ Cf. *Cat.*, 5, 2a, 29 ff.

⁸ Cf. *supra*, pp. 45-46.

⁹ Cf. *supra*, pp. 43-44; also *Cat.*, 5, 2a, 11 ff., 2b, 7 ff., 3b, 10 ff.

any one species from all others are known technically as the *differentiae*.

Now the *infima species*, or secondary substance, constitutes, like the individual, a nucleus predicable of no other species. But at the same time it is subject to further description both by predicates that tell us to what other classes the species belongs and by predicates that signify unessential qualities. The qualities that distinguish one lot of species from all other lots form the *genus* within which the species falls. Thus the *infima species* "man" is an animal with five-toed feet. But it is "animal" that gives us the *genus* of the species "man," since it names the form and is defined in terms applicable to all living beings whatsoever possessed of a sensitive as well as a vegetative soul; whereas five-toed is an unessential quality of "man," as it is of Socrates, since not only is it shared in common with other species of animals but, like whiteness in man, it is only found here and there among animals in general.

The *infima species* or secondary substance may be reached by a reverse process of subdivision of the genus. Starting for instance with a genus like "living being" as distinguished from inanimate things, we can differentiate vegetable from animal life, and then distinguish mammals, let us say, from all other sorts of animals, and finally man from every other species of mammals. Each new move in this process of narrowing down will consist in supplementing the distinguishing features of the larger class with those of the smaller, till a Form is found whose instances exhibit among themselves only accidental, unessential variation. The species, in a word, is the genus *plus* the *differentiae*,¹⁰ and the *infima species* is reached when *specific* differences no longer appear within a given group of particulars.

But this rock-bottom, independent, "not in anything else" character is insufficient to mark off *substance* from the other categories. Man is a land-animal and a biped. Indeed, these are features that belong among the wider meshes in the net with which we close in upon his distinctive nature. But they are no more *in* him, in the sense of being unable to exist without him, than is substance.¹¹ Again the fact that *substance*

¹⁰ Cf. *Met.*, X, 7, 1105, 7b, 7.

¹¹ *Cat.*, 5, 3a, 20 ff.

cannot have a contrary or vary in degree is not peculiar to the category, since the same is true of any definite *quantity*. There are, of course, plenty of things that are not Socrates, or not man, or not an animal, but none of these things is the direct *contrary* of the individual, species, or genus, as great is the direct contrary of small, good of evil, bitter of sweet. Nor can Socrates, or man, or animal be *more or less* itself. Each is *precisely* what it is and nothing else. Still, any given quantity, also, such as "two cubits long," has no contrary and admits of no variation.¹²

In spite, however, of its invariable nature and lack of a contrary, substance is able to take on contrary qualities. One and the same man with no variation in his distinctively human character may be now good, now bad, now dark, now light, now hot, now cold. This ability to change and at the same time to retain one's specific character and remain oneself is found in no other category.¹³ Though qualities, for instance, admit of difference of degree, the slightest change in the quality as such destroys it and substitutes a new nature in place of the old. White may be more or less white but it cannot turn black without ceasing to be itself, as a man can. Things like "two cubits," or "to-day," or "here," or "double" are in the same box. Try to alter them, and they vanish leaving something else on your hands.

Into Aristotle's discussion of the other categories we need not enter. It is largely devoted to bringing out their differences from substance, or to enumerating the different kinds of qualities, quantities, and relations that can be distinguished.¹⁴ We need only remark in passing that Aristotle thinks that the categories, being unanalyzable, are grasped by the mind with the same immediacy as sights or sounds are perceived by the eye or ear, and that the fact of their presence, like the fact of seeing what we are seeing, or hearing what we hear, is beyond all question or discussion. We do not *judge* that Socrates is a

¹² *Cat.*, 5, 3b, 24 ff., 6, 5b, 11 ff., 6a, 19 ff.

¹³ *Ibid.*, 3b, 33-4a, 20, 4b, 13 ff.

¹⁴ *Cat.*, 6-9.

substance, that white is a quality, or that an inch is a quantity. We simply *know* it.¹⁵

But this direct intuition of categories, like the direct intuition of simple data of sense, is only the beginning of wisdom. We do not think in isolated drops crystallized in different parts of speech. We think in streams in which one category flows into another. We do not chop our words and drop a period after each. We run them together into sentences in which we attribute qualities, quantities, relations, and the like to substances. We make statements of one sort or another. In making these statements we give, of course, a definite content to the categories we employ. We do not say "substance quality" or "substance action quantity," but "Socrates is white," or "Socrates talks a lot." When we link up our mental data or analyze them into their components we pass judgments and enter upon the debatable ground of truth or falsehood. If we judge our mental data to be linked or separated in the way in which their objects are, we have a true judgment, if otherwise, a false one.¹⁶ Or better still and more simply, dropping the mental data as objects of judgment and applying our statements directly to reality, we may say that a proposition is true if it expresses a connection or a separation that is actually there in the outside world; false if it states one that is not there.¹⁷

The simplest form of proposition or judgment is that involving a noun or a verb and nothing more, like "Socrates exists," or "Socrates talks." Such a proposition looks harmless and innocent enough, but it is loaded with dynamite and ready to explode to all four points of the compass. Our ability to single out one particular object and call it "Socrates" implies that we also recognize other objects as not Socrates, and our naming of "existence" or "talking" involves a similar recognition of non-existence and of not talking. Our original judg-

¹⁵ Cf. *Met.*, IX, 10, 1051a, 34 ff.

¹⁶ This is the view expressed in the *De Interpretatione*; cf. Ross, *op. cit.*, pp. 25-26.

¹⁷ *Met.*, IX, 10, 1051b, 3 ff.; Ross, *op. cit.*, *loc. cit.*

ment thus hatches out three others, "Socrates does not exist (or talk)," "the things that are not Socrates exist (or talk)," or "do not exist (or do not talk)."¹⁸

If now we add a third element in the shape of some further qualification, the case becomes doubly complicated. Take, for example, the proposition "Socrates is not tall." Evidently the "not tall" may mean either that Socrates is short, the extreme contrary of tall, or that he merely belongs to a class of objects to which neither of the extremes "tall" or "short" is applicable. This double meaning of "not tall" increases the number of possible combinations from four to eight.¹⁹ Moreover, in such sentences the "is" ceases to denote just the existence of the subject in single blessedness, and becomes a "copula," or kind of marriage certificate, testifying to the union, permanent or temporary, of subject and predicate. This secondary use of "is" Aristotle recognized, but it is a question whether he ever got the two meanings of the verb "to be" completely disentangled.²⁰

Simple propositions divide themselves quite patently into two kinds, positive and negative. We are always saying that a thing is, or that it is not, such and such.²¹ Less obvious at first glance, but still sufficiently so to raise no difficulties, is the quantitative difference between judgments that are more or less sweeping and universal in their application and those that have to do with a single individual. For instance, if I say "all men are white," I make a statement about all men, or, in other words, a universal one. If I say "some men are white," I make a statement that is neither universal nor particular. If I say "Socrates is white," I pass a particular or singular judgment.²² As the last kind of judgment is of little use in building up our knowledge, which is concerned with universals, it does not figure in Aristotle's later discussion of the processes of reasoning.²³

In making affirmative propositions we have to be careful

¹⁸ *De Int.*, 10, 19b, 14-19, 20a, 3 ff.

¹⁹ *De Int.*, 10, 19b, 20 ff.

²⁰ Cf. Ross, *op. cit.*, pp. 27-28; Zeller, *op. cit.*, I, pp. 231-232.

²¹ *De Int.*, 5-6, 17a, 8 ff.

²² *De Int.*, 7, 17a, 38 ff.

²³ Cf. Ross, *op. cit.*, p. 30.

about the "distribution," as it is called, of our predicates. In the statement "man is white," although "man" is used in the sense of "all men," "white" cannot in the same way refer to all white things, for in that case I should have the false proposition "all men are (man is) all white things (the only white thing)." ²⁴ What I really mean is that "all men are *some* white things," or, in other words, that they fall within a class that comprises other objects besides man. In combining negation with quantity we must be even more cautious, for then we have to deal with the ambiguity of the word "not," to which our attention has already been drawn. Thus if we say "men are not large animals," we may mean that they are positively small creatures or that they are merely neither large nor small but middle-sized ones. In the first case the "not" indicates the direct opposite or contrary of large; in the second it means merely the contradictory, or in other words, any degree of size that cannot be defined as big. And when we complicate this with the difference between "all" and "some" we have to walk carefully. ²⁵

Indeed, the drawing of inferences from a proposition now becomes subject to an intricate set of rules, and requires close watching if we are to avoid erroneous conclusions. In inference "by conversion," as it is called, we must at all costs avoid ambiguity in the use of "all" and "some." For example, I can convert the proposition "men are animals" into "animals are men" if I mean "*some* animals are men," but not if I imply "*all* animals are." To put it technically, in the reversal of subject and predicate involved in conversion I must take care not to "distribute" the predicate over a wider field than it originally occupied. In my original proposition, "men are animals," obviously the class "men" was included within the class "animal." When converting it I must therefore preserve this impression of inclusion and give no ground for believing that the class "men" is as large as, or larger than, the animal group, as I might do if I omitted the "some." Again, the proposition "*some* men are animals" although it assures me that "some animals are men" leaves the questions whether "all men are ani-

²⁴ *De Int.*, 7, 17b, 10 ff.

²⁵ *Ibid.*, 17b, 1 ff.

mals" and "all animals are men" unanswered, and forbids me to come to any conclusion on logical grounds. But from the statement "no men are quadrupeds" I can safely infer that "no quadrupeds are men," that "all men are non-quadrupeds," and that "*some* (though not *all*) non-quadrupeds are men," to mention three out of seven possible implications.

We must be even more on the lookout when we try to infer "by opposition" the falsity or doubtfulness of the negative of a given proposition. Thus, starting with the assertion "all men are animals" it is certain that the statements "no men are animals" and "no animals are men" are false, but it may be that the assertion "some animals are not men" is true. If I have merely said, however, "some men are animals," there is no logical reason for denying that "some men are not animals."

But this is not all. To the problems raised by quantity and negation in propositions we must add difficulties that spring from the use of the subjunctive and the imperative as well as the indicative mood. Not all our statements are assertions or denials of fact, like "this is such and such" or "is not such and such." We often say "must" and "may," implying thereby necessity or possibility. And these factors have to be taken into account in figuring out sets of combinations already bewildering enough as they are.²⁶

We have, of course, merely been outlining sample moves in a game that Aristotle developed at some length with an embarrassing wealth of rather confusing detail, and that the progress of logic has elaborated and clarified. But they are perhaps sufficient for our purpose, and all the more so since the bulk of our reasoning does not stop short with inferences of this kind. We no more think in isolated phrases than in isolated words. We run our sentences together by the use of expressions like "and so," "therefore," "hence," "it follows that." These expressions free us from the necessity of merely juggling with the subjects and predicates of isolated propositions, and keep adding to our stock in trade. We can go on producing more and more ideas, and can keep them all in the air at the same time, as a juggler brings one ball or plate after another into

²⁶ Cf. *De Int.*, 7, 17b, 1 ff.

play. In this way we build our sentences up into paragraphs, develop new material as we go, and pursue lines or trains of thought.

Moreover, we frequently condense the results of these prolonged conversations with ourselves into single sentences in which the connection between subject and predicate is not immediately obvious. Thus if I say "that is a man," or "that man is tall," it is foolish to ask me why I think so. But if I say "that man is a Greek," I can reasonably be asked how I know it. When I come to explain, it will be found that there lurks in the midst of my statement knowledge that is not explicitly set forth in it. "I know he was born in Athens," I reply, "and all men born in Athens are Greeks." Even this assertion I may have to justify by adding "Athens is in Greece." If these propositions are not forthcoming, my statement, though it may happen to be true, carries no weight of logical conviction.

In sentences of this sort, then, a whole paragraph is concealed. I am inferring my conclusion by using an intermediate class which includes the subject under discussion and is at the same time itself included in the wider group towards which our discussion is expanding. Such inference is a time and labor saving device of the utmost importance. If I know that Socrates was born at Athens, and that Athens is in Greece, I do not have to ask him personally whether it is true that he is a Greek, in order to verify my conclusion. I know that it is so before I even meet him. So, too, if I know that he is a man and that no men are quadrupeds, I am sure that when I do meet him I shall not find him going on all fours. Most of our daily business is conducted in a logical shorthand of this sort, and fairly bristles with ellided propositions which are quietly ignored until we make some statement we are forced to defend. Then we cannot reach for them too quickly, and woe to us if they are not loaded. If we find them, they provide us with a weapon known as the *sylllogism*. But if they are not loaded, the syllogism they put into our hands is worse than useless. It proves to be one of those pistols constructed with the muzzle to the rear that we sometimes read of in detective stories, and

it kills not our opponent but ourselves with the speciousness of its argument.

Now we have perhaps already begun to tremble at the additional complexity the combination of these middle terms with "all," and "some," and "not," and "no" introduces into correct thinking. We should have good reason to do so if it were within the scope of our discussion to follow Aristotle's treatment of the syllogism at any length. He was the first really to bring to light the mechanism of thought that it denotes, although Plato's method of logical division in part unearths it. And he was the first to bestow upon it its name. Not unnaturally, then, he may seem a little long-winded and grow a bit tiresome when he talks about it. But here, as in the case of propositions, we shall try to cut him short.

Before entering upon our discussion, however, we shall do well to note one thing. In dealing with the inferences to be drawn from propositions in which no middle term of any importance lurks, we may have come to suspect that their correctness is in part independent of matters of fact. The statement, "the chimaera has three heads" is subject to the same correct and incorrect development by conversion and opposition as the assertion "man has two legs." Aristotle had in part perceived this early in the game and had written a treatise, now incorporated in the *Topics*,²⁷ in which he showed how all propositions may be developed. As he pondered upon the syllogism, his perception became clearer and more organized, and he laid down certain definite rules of predication that held good, he felt, of all assertions. These rules had to do with the relations of the subject and predicate to each other, irrespective of whether the special content introduced into them for the purposes of argument was actually existent or not. To be sure, argument for the mere sake of argument was not to be encouraged, and little could be gained by making logically correct inferences from statements like "the chimaera has three heads." For it was scarcely probable that propositions of that sort had their counterpart in the objective world. Still, much of our daily thinking and acting was founded upon premises of whose ob-

²⁷ *Top.*, II-VII, 2.

jective counterpart we could not be sure, or at least had not assured ourselves. These premises, however, asserting as they did things that commended themselves to most men, or to the best and wisest if not to all, might be regarded as probably true. Furthermore, it must be remembered that the principles assumed by the sciences could not themselves be proved, but simply had to be accepted.

Again, these probable propositions are not asserted like bolts from the blue. They are answers to questions that we have put to ourselves or to others. Confronted with the knots of qualities we call things, we are continually asking which qualities seem to indicate what the thing really is, and which are separable from its nature, which inseparable.²⁸ And we cannot go about the business of life till we have solved, at any rate partially, the problems that the coagulation of sense-data into things forces upon us. Moreover, though Aristotle does not stress this point,²⁹ it is by asking these questions and answering them that science reaches the principles it assumes. The object of science is to know what things really are, and to attain its object it must be keen to distinguish the essential from the unessential and to codify the different sorts of unessential attributes and relate them correctly to each other and their subject.

Take, for example, an all-important problem of ethics like the question, "what is the good," or "what is right." Now, it may well be that we can never discover what, as a matter of fact, the nature of the good is, or, in other words, construct a really scientific ethics. The tangled jungle of conflicting opinions relative to time, place, and circumstance may prove too thick for us ever to penetrate. Still, since human beings are quick to persecute one another, and even to suppress and mutilate themselves, in the name of some merely temporary and local standard mistaken for absolute, it is of the utmost importance that we should try to get as close to the true character of right and wrong as possible. To do this we must formulate a statement regarding the nature of the good that, though strictly speaking undemonstrable, has the greatest weight of

²⁸ Cf. *Top.*, I, 4, 101b, 23 ff.

²⁹ Cf. Ross, *op. cit.*, pp. 57 ff.

probability behind it. This cleansing of morals from superstition, prejudice, and cruelty, and this redressing of the balance when an ethics lays too much stress upon one virtue or set of virtues to the damage or even the exclusion of others, can only be accomplished by a scrupulous attention to the difference between such things as "essence," "genus," "property," and "accident."

Here, certainly, in the asking of questions and in dealing with the indefinite range of unproved but useful and probable answers to them, the dialectical game can be played with profit. It sharpens our wits, enables us to meet our opponents on their own ground, tightens our grasp of the means for detecting truth and error, and provides us with an instrument for philosophizing about first principles. The general relations of subject and predicate are, then, worthy of study.

Having set forth these considerations in the later portion of the *Topics*,³⁰ Aristotle proceeds to enunciate his so-called theory of the predicables. Take the propositions "man is rational," "man talks," "man is an animal," "man is hairy." If we reflect a moment, we shall see that these predicates do not all stand in the same relation to the subject. "Rational" tells us what man is and singles him out from every other kind of animal. Examining now the proposition "man is rational" we find that this peculiarity of "rational" is reflected in our ability to reverse predicate and subject without limiting the distribution of the predicate when we do so. We can convert the proposition into "*all* rational animals are men," although we can convert the statement "all men are animals" only into "*some* animals are men."

Or again, take the proposition "man talks." If we convert it we find that here, too, subject and predicate when reversed are co-extensive. Not only does man talk, but the only talking being is man. Nevertheless, "talking" does not define man or set him apart as rationality does. Indeed, were he not rational he could not talk. The ability to talk then is not his *essence*. It is a *property*.

Let us pass now to the other two propositions, "man is an

³⁰ *Top.*, I, VII, 3-5, VIII.

animal," "man is hairy." In converting the first, as we have just seen, we have to limit, when we make it a subject, a term that was unlimited as a predicate. When we said "man is an animal" we included him among *all* animals. But when we reverse the order we can only say "*some* animals are men." And yet, when we are telling what man is we cannot avoid mentioning the term. When a term enters into the essential description of an object but applies to other species of things as well, we are dealing with a *genus*.

Finally let us look at the assertion "man is hairy." It is governed by the same rule of conversion as "man is an animal," for we can infer from it no more than "*some* hairy things are men," although we have just included men among hairy things in general. But unlike "animal," it does not have to be used in describing what man essentially is. It is an unessential attribute or *accident* of the human species.

This discussion, however, leaves one important point at loose ends. It leaves the various distinctive marks, or *differentiae*, that distinguish the species from the genus lying about beside one another and at the same distance from the object they define. It might seem, indeed, that man could be defined as, let us say, two-footed, animal, viviparous, rational, and mammalian without any respect to the order in which the terms are used, and that our whole logical duty towards him was done by saying that wherever all these characteristics happened to intersect one another, there we found a human being.

But now logic, if it is anything, is tidy and demands order. The species and its distinctive characteristics cannot be left like boxes of different sizes lying about here and there within a roomy packing-case of a *genus* that is loose-fitting enough to contain them all, however they are arranged. On the contrary, if they are to be squeezed into the *genus*, they have first to be put inside one another in a given order that converts them into the nest of boxes with which we are already familiar. The smaller must always be fitted into the next larger, in which, we shall find, it lies so snugly that no space is left between. Only by this rigid process of including one distinctive characteristic within another can man, for example, be neatly and

logically packed into the genus "*animal*." In terms of the diagrams ordinarily employed by textbooks of logic, we cannot define him merely by intersecting the circles representing the wider general classes to which he belongs. We have to make these circles concentric. To stow "man" away in "animal," we cannot just dump him into "mammal," and "mammal" into "two-footed," and "two-footed" into "viviparous," and "viviparous" into "rational." If we are to come out right, we must first put him into "rational"—which is like putting two envelopes of the same size one within the other, since "man" and "rational animal" are co-extensive. Then we must insert "rational" into "two-footed," which is the next largest class, and then the resultant "rational two-footed" into "mammalian." The next box into which "rational two-footed mammalian" immediately fits will be "viviparous," and this, we may assume for purposes of argument, slides without any intervening space into the genus "*animal*." The upshot will be that we define man as a "rational two-footed mammalian viviparous animal."³¹ No other order of predicates is possible, and we may note, no commas are permissible between our adjectives. Indeed, the introduction of a comma would disrupt our nest of boxes and scatter them in disorder. There is some logic in the rules of punctuation after all.

If we reverse the order of our packing and begin with the largest box first, then the classes to which a thing belongs function as *differentiae*. To be sure, all these classes, however they are arranged, differentiate the object in one measure or another from other things. But they acquire the value of *differentiae* only when they are fitted each within the next larger so as to constrict the subject concentrically little by little and eventually to contain it within a co-extensive class that includes it only, and that it entirely fills. This distinction between the *genus* and the *differentia*, nebulous in the *Topics*, is finely drawn in the *Metaphysics*.³²

In the *De Sophisticis Elenchis* Aristotle considers the erroneous but plausible types of reasoning that can often be success-

³¹ Cf. *An. Post.*, II, 13, 96b, 15 ff.

³² *Met.*, VII, 12 1037b, 7 ff., 1038a, 25 ff.

fully used with a simple-minded opponent. In the first place, we can use words or construct a sentence ambiguously, or make our hearer punctuate or accent it otherwise than we are doing in our own minds. A second and much more important class of fallacies consists not in the misuse of words but rather in the misdirection of trains of thought. A man, for example, may try to convince me that alcohol is harmful because it is a drug. In that case, unless he is deceived by his own argument, he is relying on the association of harmfulness and habit-form action with drugs in general to make me overlook the fact that some drugs, like caffeine and nicotine, and incidentally alcohol, are harmless and non-habit forming with most people if not abused. In other words he is trying to palm off on me an accidental quality as an essence. Again, if he argues that because too many cocktails are not good for me the cocktail as such is necessarily bad, he is trying to bamboozle me into accepting a special case as a general rule, or in other words, to trap me into becoming an accessory to the fallacy *a dicto secundum quid ad dictum simpliciter* or jumping from a conditional to an unconditional statement. If I decline to be taken in by such argument, he may then perhaps try the *non causa pro causa*, inviting me to behold the economic blessings that flow from the empty bowl, and at the same time adroitly distracting my attention from other possible causes of prosperity and from the prosperity that attends elsewhere upon the moderate use of alcohol. Finally, to finish me off and dry me up completely, he may confront me with an overwhelming mass of plausible but really irrelevant matter, in the hope that I shall be too overawed by its apparent force to see that it is all beside the point and, if it proves anything at all, really proves something quite different from the conclusion he would have me draw from it. If he succeeds in doing this, it is because he has blinded me to the fallacy of *ignoratio elenchi*, or ignorance of sound refutation.

Or, to take another burning question in America, let us suppose that a play or a book, seen or read without objection in many large cities, is forbidden in a provincial town, and that, if protest is made against its suppression, the local censor replies

that its language is too indecent and shocking for him to permit it to appear on the stage or the bookstalls. Plainly, authorities that seek to justify themselves to the public in this way are confident of their ability to commit *petitio principii*, as well as *a dicto secundum*, etc., without being detected. Not only are they trying to make the public believe that something resting merely upon their private opinion really rests upon immutable foundations of universal decency and morality, but they are also assuming the point at issue and begging the question. For, after all, the bone of contention is whether the book or the play is too shocking or the censor too easily shocked. And it is certainly an open question whether that which has been received in many places without objection can be properly called objectionable in itself. The truth may be simply that the person or the group whom it offends are narrow and unintelligent in their views.

These fallacies are still persistent and universal twenty-three hundred years after Aristotle first exposed and codified them. Nor are they confined to any one school of thought. The radical falls into them as readily as the conservative, the liberal as the fundamentalist, and is as glib in their use. The sad thing is, perhaps, not so much that those against whom they are used should be taken in by them so easily, as that those who employ them should so frequently adopt them in all innocence, believing that they are valid forms of reasoning, and should thus fool themselves before fooling others.

Let us turn back now to the syllogism—that form of mental procedure into which all our condensed statements may be expanded, and by means of which we argue from one statement to another. Take the assertion “all Americans are mortal.” Obvious as it seems, a moment’s reflection must convince us that it has something up its sleeve. For it is not by virtue of being citizens of the United States that all Americans are mortal, but by virtue of a third group of objects, suppressed in the sentence, to which all Americans indubitably belong, and which in its turn as indubitably belongs within the class of mortal things. If we pick the statement to pieces we shall find that this suppressed class is “men” or “human beings,” and that our terse assertion

may be resolved into three thoughts "all Americans are human beings," "all human beings are mortal," "therefore all Americans are mortal." The first two statements we are taking for granted. They are *premises*. Both of them, we notice, contain the term "human being," which is squeezed out from the midst of the sentence when our statement is condensed. This elided intermediary link is called the *middle term*. As the predicate "mortal" plainly applies to more, and the subject "Americans" to less, than human beings as a whole, they are known respectively as the *major* and *minor* terms, and the premises in which they appear are called the major and minor *premises*. Given these premises, we rightly draw the *conclusion* "Americans are mortal."

Such is the basic form of the syllogism, known to modern logicians as the "first figure" and considered by Aristotle the logical procedure to which all argument can be reduced.³³ Its secret lies in being sure that all of the minor term is boxed within the middle one, and all of the middle within the major. The middle box is, to be sure, invisible in the final statement of the case, but its hidden presence holds the minor and the major tightly together and prevents the conclusion from being loose.

Unfortunately, however, just as things appear so simple, our old enemies, the implications of "some" and "all" and the negative twists given by "no" and "not" in a proposition, turn up to plague us with no less than sixty-four possible ways of combining these two short premises about Americans and men in syllogistic form. As only eleven of these lead to valid conclusions, we have fifty-three chances of error to avoid. Furthermore, seeing that in any proposition the position of subject and predicate can be reversed without doing violence to the grammar or the sense of the statement, our premises, apart from the complications noted above, will yield four so-called "figures" according as the major and minor terms are used as the subjects or predicates of their respective premises.

With the first figure, in which the middle term is the subject of the major premise, as in the "all men are mortal" part of our syllogism about Americans, we are already familiar. But

³³ *An. Pr.*, I, 4, 25b, 32 ff.; cf. Ross, *op. cit.*, p. 34.

if we state our premises in the shape "Americans are men," "mortals are men," using the middle term as the predicate of both premises, we have the second figure. Placing the middle term "men" as the subject of both premises, we get the third, and as the predicate of the major and the subject of the minor, the fourth. Obviously the correct use of "some" and "all" and "no" and "not" becomes of vital importance in determining what we can and cannot infer. The upshot of it all is that we have on our hands twenty-four varieties of syllogism that are logically valid, of which five, however, give us only partial or weak conclusions elsewhere demonstrated in their entirety. Our selection of these twenty-four is guided by eight rules governing the correct inference of a conclusion from given premises.

But our troubles are not over. As we saw in discussing propositions, the statements we make are not all in the indicative mode. We modify them with "may" or "must," implying thereby not a simple assertion but the added or diminished weight of necessity or possibility. In the syllogism one premise can obviously be of one sort and the other of another. Here again, rules for the correct inference of the conclusion have to be laid down—a task to which Aristotle applied himself with great diligence and detail.³⁴

Although Aristotle unravelled with considerable pains and thoroughness the complexities of the syllogism, he did not sort them out to the extent achieved by later developments in logic. The second and third figures he tried to link up with the first, and to make them dependent upon it for their validity. And the fourth figure he did not recognize as such, though he discussed methods of inference that properly belong to it. Its existence and independence were finally established some four hundred years later by the physician Galen, who followed out suggestions made by Aristotle's successor, Theophrastus. Again, the Aristotelian treatment of the problems raised by the use of "may" and "must" was not wholly satisfactory, and here, too, Theophrastus did much to clear the situation. The hypothetical syllogism was not distinguished and dealt with as such,

³⁴ *An. Pr.*, I, 8-24.

although Aristotle devoted some space to forms of argument from hypothesis.³⁵

Now, so far, we have been inspecting the machinery of argument by *deduction*. We have been examining cases in which we took the truth of certain general propositions for granted, and then *deduced* from them the conclusions that the laws of logic permitted. This, however, is only half of the process of thought, and perhaps the least important half. For the question inevitably arises—what right have we to take general statements for granted? How is it, for example, that we arrive at the truth of such propositions as “all human beings are mortal” or “all Americans are human beings”? Obviously we must be reasonably sure of such general truths before we can argue with any sense of certainty that all Americans are going to die some day. It is vital, then, for us to understand the machinery by which sound general statements are turned out.

It is plain that the extraction of universal propositions is not a deductive process. On the contrary, we find ourselves moving in exactly the opposite direction. In *deduction* we were arguing from the universal rule to the particular case; here we are somehow building up from the observation of particular cases an acceptable general rule. This reverse move, or perhaps we should say, this move of which deduction is the reverse, is called *induction*.³⁶ Its novel method, contrary direction, and importance for philosophy and science were not overlooked by Aristotle, and he set himself to exploring its nature and laws with his usual zest. Enthusiastic as he was over his invention, the syllogism, it was only to be expected that he should experiment with it in this new field.³⁷

At first sight it looked as if the experiment were successful, and as if a syllogistic structure could be detected in inductive thinking. For, if I were asked on what grounds I argued that “all men are mortal,” my mental process would turn out to be somewhat as follows. “Tom, Dick, and Harry,” I say to myself, “were all human beings. Tom, Dick, and Harry all died and

³⁵ Cf. Ross, *op. cit.*, pp. 36–37.

³⁶ *Top.*, I, 12, 105a, 10 ff.

³⁷ *An. Pr.*, II, 23, 68b, 15 ff.; cf. Ross, *op. cit.*, pp. 38 ff.

proved to be mortal. Therefore all individuals possessed of all the other characteristics of Tom, Dick, and Harry, and classified with them as human beings, possess the characteristic of mortality, too." Here, as in deduction, we have major and minor terms and premises from which a conclusion is drawn. Inductive reasoning, then, seems to be carried on in syllogistic form.

But plainly an element of doubt lurks in a syllogism of this sort. All the cemeteries in the world cannot make it absolutely certain that there may not be hidden in some unexplored African or Amazonian jungle men who do not die. The inference from the particular cases to the universal rule may be a safe bet, but it is not a sure thing. Habitually, moreover, the syllogism is used in situations that involve far greater odds. Thus Aristotle's own example is the inference that all gall-less animals are long-lived from the fact, as he considers it to be, that in such species as he has observed the two characteristics are always found together.³⁸ A conclusion like this, which is typical of most of our induction, would be a poor insurance risk. The chances of a negative instance occurring and destroying it are too great. Only in cases where the observed instance is clearly typical of the whole, as in mathematics, can our induction be perfect, and can hard and fast conclusions be drawn. For this reason we to-day realize that both science and philosophy are at the bottom speculative, resting as they do upon an insecure foundation laid in the quicksands of an unexplorable space and of a time with an unpredictable future. But it must be remembered that Aristotle believed the number of species and genera to be limited and explorable and their properties to be the same yesterday, to-day, and forever. Therefore inductions like that of longevity from absence of gall might seem to him as perfect as mathematical inferences, and, generally speaking, the inductive structure of philosophy and science might appear in his eyes far more doubt-proof than it does in ours.³⁹

Aristotle's superior assurance of the powers of inductive reasoning was reinforced by his psychology. Although, he felt, all knowledge is founded upon sense-perception, a direct

³⁸ *An. Pr.*, II, 23, 68b, 15ff.

³⁹ Cf. Ross, *op. cit.*, pp. 39-40.

intuition of universals, as certain as the intuition of sense-data, is present in it from the start. The fleeting percept lingers in the mind as a memory, and repeated memories give rise to the immediate experience of an individual object. But the perception of a *thing* involves the perception of a universal as well as of an individual element. Each thing is given to sense as some *kind* of thing. Indeed *things* represent the presence of a Form rallying and organizing an otherwise disorderly rout of meaningless sensations. "When one of a number of logically indiscriminable particulars has made a stand, the earliest universal is present in the soul; for though the act of sense-perception is of the particular, its content is universal—is man, for example, not the man Callias."

The ever widening circle of induction is attended constantly by the same intuition. "A fresh stand is made among these rudimentary universals." Just as an individual is some *kind* of individual, so every species is felt to be a species of something. We may indeed be wrong in our attribution, but the fact remains that the species is not apprehended as a species unless it is also apprehended as a species of a wider genus. Mankind is a kind of animal. "The process does not cease until the indivisible concepts, the true universals are established," or in other words, till we have reached the final categories under which we docket the universe.⁴⁰ It is clear, then, Aristotle concludes, "that we must get to know the primary premises by induction; for the method by which even sense-perception implants the universal is inductive."⁴¹

The indivisible concepts in which induction finally comes to rest, or in other words the primary premises of scientific thought and investigation, are not themselves objects of scientific knowledge or capable of demonstration. At first sight this seems paradoxical, but Aristotle's meaning is clear and makes common sense. Knowledge and demonstration consist for him in elucidating the general aspects of a particular case and in finding a Form, or universal law or rule, of which the individual is an instance. We can only investigate and explain the particular by subsuming it under a species, the species by finding

⁴⁰ *An. Post.*, II, 19, 99b, 32 ff.

⁴¹ *Ibid.*, 100a, 14 ff.

room for it within a genus. But obviously there is nothing wider, deeper, and more universal than the categories and first principles of science—nothing, that is, under which they can be subsumed and by which they can be “known” and “demonstrated.” In them the process of inductive knowledge comes to a full stop; from them the process of deductive and demonstrative knowledge starts. Our mental attitude towards them is not one of question but of answer, not one of scientific inquiry but of an acceptance founded upon immediate apprehension or *intuition*.⁴² Our minds in this final stage are no longer reasoning; they are rather pure reason, one with the ultimate constitution of the universe.⁴³

This, after all, is merely a statement of our own feeling about any truth that we regard as final. We can and do ask the why and the wherefore of any particular fact. Such asking constitutes science, and “knowing,” in the scientific sense of explaining, lies in answering the question. But, when we have reached an all-embracing and final explanation which satisfies us completely, we cannot ask for an explanation of that explanation. We may indeed challenge any solution of the problem, be it theistic, materialistic, or what not, on the ground that it does not account for the appearance and behavior of the world. But to complain of a scientist or a philosopher on the score that he does not try to solve his solution indicts the plaintiff even more than it does the defendant. If the theist, for example, asks the materialist where matter comes from, and why it moves, and moves as it does, the materialist can retort by asking the theist where God comes from and why he has the nature he has. And the materialist in that case will have the advantage of not having been so foolish as to raise the question.

In short, as Aristotle saw, no reason can reasonably be demanded for the reason for everything. Knowledge does not involve us in an infinite regress. Nor does the fact that the final explanation cannot be known in the sense of finding a cause or reason for it mean that it is unknowable. For knowledge in the wider sense is not confined to proving; it includes the final and immediate intuition for which no proof can be

⁴² *An. Post.*, II, 19, 100b, 5 ff.

⁴³ Cf. Ross, *op. cit.*, p. 55.

sought.⁴⁴ And in the presence of Reality as we finally conceive it, we find ourselves, like Aristotle, not “demonstrating,” or “knowing” in the sense of probing and reasoning out our first principles. Our knowledge has passed from groping to grasping, and now consists in simply “intuiting” first principles and accepting them unquestioningly for what they are.

We turn back to the great field of scientific inquiry bounded by the two goal lines of given percepts at one end and of final concepts at the other, beyond which the game of knowledge cannot be extended. Within this field, however, the mind has plenty of room for exercising and exhausting its capacities for knowing and demonstrating. With the series of inductive forward passes and rushes by which the ball is carried from the particular to the universal we are already familiar. But these passes are checked and stabilized at every move by an opposing play of deductive thought, which must succeed in also carrying the ball from the universal to the particular and in tying the score, if the game is to be brought to a successful conclusion. With this return to the material facts from the first principles that are the presuppositions of all science the process of scientific demonstration is bound up.

One characteristic of the process is plain. All our arguing, as we have seen, takes something for granted. For example, a thing like the logical law of excluded middle—that there is no halfway course between being and not being—is simply assumed on the face of it. And it is almost as obvious that our words have a known meaning and, incidentally, that objects to which they can be applied exist. The presence and the definite meaning of a name, however, are not always sufficient guarantee of the existence of things responding to it; witness the mathematical unit, which can be clearly defined but is not easily found in a world where everything is divisible. In such cases we have to assume both “the meaning of the word and the existence of the thing.”⁴⁵

Again, the premises upon which scientific demonstration rests must be true. Conclusions in good logical form can be drawn from out and out false assumptions, and much that is useful can

⁴⁴ *An. Post.*, I, 3, 72b, 5 ff.

⁴⁵ *Ibid.*, I, 71a, 10 ff.

be deduced from merely probable ones. But so long as we are dealing with the probable and the contingent, we are moving in the sphere not of science but of opinion. We are not firmly grasping the essence of our subject, but are still hesitating between different possible candidates for that essence.⁴⁶ And science differs from reasoning in general in that, not only must its conclusions follow logically from the premises, but the objective situation described by the conclusion must also be the necessary *effect* of which the facts embodied in the premises are the actual *causes*. For "we possess scientific knowledge of a thing only when we know its cause."⁴⁷

The premises, then, from which any conclusion is scientifically demonstrated will always be clearer, not to the eye perhaps, but to the mind, than the deductions we draw from them.⁴⁸ We perceive, for example, falling bodies long before we know the law of gravitation. And in time to come we may be able to interpret the well known gravitational formula in terms of some at present unknown, wider law covering electro-magnetic phenomena as well. Nevertheless, since the more specific may be deduced from the more general, once the latter is apprehended the more general will come first in the order of demonstration though not in that of discovery.

Needless to say, the first premises or basic truths from which all scientific demonstration starts will be undemonstrable but unescapable concepts and propositions.⁴⁹ Any proposition of this sort, be it of universal or of limited application, is, as we say, axiomatic.⁵⁰ Each science, however, has a particular stock in trade of hypotheses and definitions which it assumes. Hypotheses assume the existence of the subject under discussion; definitions lay down and assume the nature and meaning both of the subject and of the properties and attributes whose existence or non-existence relative to the subject is under debate. Thus arithmetic defines the unit, whose existence it assumes, as something quantitatively indivisible, and then proceeds to prove whether various arithmetical properties, whose definitions

⁴⁶ Cf. *An. Post.*, I, 2, 71b, 8 ff., 33, 88b, 30 ff.

⁴⁷ *Ibid.*, 71b, 29 ff.

⁴⁸ *Ibid.*, 71b, 25 ff.

⁴⁹ *Ibid.*

⁵⁰ *Ibid.*

are laid down, are or are not true of it. This is done by viewing the unit in the light of the axioms presupposed by arithmetic, and by seeing what attributes these axioms will or will not permit. So too, geometry after defining and assuming the existence of spatial magnitude proceeds to explore its properties in the same way.

Generally speaking, then, we may say that all scientific demonstration consists in revealing the essential properties of a given kind or genus of existent thing by the application of axioms to the subject and the property in question.⁵¹ Take, for example, Aristotle's own astronomical system. The existence of the heavenly bodies and of their highly complicated movements he took for granted. Circular motion he knew the meaning of and could rigidly define. And by applying the axioms of geometry and locomotion to the observed situation he could show how circular movement was one, or perhaps we should say fifty-six, of the essential properties of that situation. Or, let us take as a modern example the attempt to correlate gravitation with electro-magnetic phenomena. Our subject matter, though complex, exists and can be described with mathematical precision. Assuming now the fundamental concepts of relativity as our premises, we proceed to examine in their light the essential attributes of the two fields, hoping to prove thereby that these attributes are really one and the same, and that they can be re-defined in the terms of a new law covering both spheres. Here, again, we have the three Aristotelian "essential elements of demonstration . . . the subject, the attributes, and the basic premises."⁵²

Since science is concerned with an object that cannot be other than it is, and since its premises and conclusions alike must therefore be necessary, its statements will always be sweeping in character and "true of every instance of its subject" at all times and places.⁵³ But they must be also more than this. It is universally true of all men that they walk, but such a truth has scarcely the dignity of a scientific law. Walking is an *accidental* attribute, which man possesses incidentally. Or again,

⁵¹ *An. Post.*, I, 5, 74a, 35 ff., 10, 76b, 11 ff.

⁵³ *Ibid.*, 4, 73a, 21 ff.

⁵² *Ibid.*, 10, 76b, 2-22.

supposing that every time I went for a walk I were caught in a thunderstorm, I could not infer that my walking was the cause of the thunder. In spite of the fact that it was my universal experience it would still be a coincidence.⁵⁴ To be scientific a statement must confine itself to *essential* attributes; that is, to attributes that either are contained in the formulae defining the nature of the subject or else involve the subject in their own definition. For example, the line cannot be defined without reference to the "point," or without using the terms "curved" and "straight." All these terms are essential attributes. But, whereas the term "point" can be defined without reference to the line, "curved" and "straight" cannot.⁵⁵

Still, it is not enough, even, to define the subject in terms of its genus and differentiating characteristics. To state that man is an animal and that one of his essential and distinctive characteristics is "talking" would be for Aristotle an accurate scientific observation. But it fails to reach the essence of human nature. That essence can be found only by discovering the distinguishing predicate that is "commensurate" with the subject or, in other words, that cannot be omitted from its definition. To say of man, "he is a talking animal," is not sufficient. But if I say of him "he is a rational animal," I have said enough. I do not *need* to recite his other essential attributes. "Rational animal," then, is the essential attribute *commensurate* with human nature, and denotes what man *is*. A logical sign that the essence has been reached is given, as we have already noted, by our ability to convert the proposition defining it without altering the distribution of the terms. "All men are rational animals" means also "*all* rational animals are men." To obtain conclusions of this sort in which the predicate is not only universally true of its subject but "commensurately universal" with it is the ideal of scientific demonstration.⁵⁶

This ideal, however, is not easy to attain. Frequently, in cases where classification is obscure we associate the essence with individual peculiarities, or fail to observe that some common but as yet unformulated point of agreement among species

⁵⁴ *An. Post.*, I, 4, 73b, 3 ff. ⁵⁶ *Ibid.*, 73b, 25 ff.; cf. II, 16, 98a, 35 ff.

⁵⁵ *Ibid.*, *An. Post.*, 73a, 34 ff.

is really essential in character. Or again, mistaking the part for the whole, we transfer to the whole truths that are really only demonstrable of the part.⁵⁷ To guard against error, we must be sure not only that our original premises are basic and definitive propositions, but also that the conclusion is obtained by middle terms inexorably forced upon us by the premises. A conclusion to which we jump, or that we reach by a non-necessary middle term, has no scientific value. For it will carry no knowledge of its causes or of the fact that the conclusion is a *necessary* connection.⁵⁸

Furthermore, we must not try to prove conclusions within the field of one science from premises that properly belong to another. Geometrical truths, for example, cannot be demonstrated on arithmetical grounds. Nor may we wander afield in our middle terms. Each science must be kept strictly within its own sphere from start to finish, except in the case of derivative sciences which look to their parents for their precepts. Thus, although we cannot prove by geometry any non-geometrical characteristic of the line, the laws of optics, which is a subordinate science, rely upon geometry for their demonstration. Many errors arise from neglecting these precautions.⁵⁹

But scientific knowledge is capable of still further refinement. Take the simple perceived fact that the planets, unlike the fixed stars, do not twinkle. From this I can demonstrate scientifically either that planets do not twinkle because they are near, or that they are near because they do not twinkle. Both inferences might seem to be on a par scientifically. Still, if we look more carefully, we shall see that the implications of the word "because" are quite different in the two cases. In saying the "planets are near *because* they do not twinkle," we do not mean that the steadiness of their light is the *cause* of their proximity. We mean merely that it is a reason why we think them to be near. We start from an observed fact and arrive at an understanding of it. In saying, however, that "the planets do not twinkle *because* they are near," we are stating why a fact exists as well as why we think it does. The proximity of

⁵⁷ *An. Post.*, I, 5, 74a, 4 ff.

⁵⁹ *Ibid.*, 7, 75a, 38 ff.

⁵⁸ *Ibid.*, 6, 74b, 5 ff.

the planets is the actual *cause* of the untwinkling quality of their light. Here I am beginning with a reason and arguing that, in view of the reason, the observed fact *must* be what it is.

Knowledge of this latter sort, in which the reason for inferring a thing is identical with the cause of a thing's existence, is plainly more complete and scientific than a knowledge grounded upon facts that fail to account for the existence of the truth inferred from them. Indeed, it is the sign of a superior as compared with a subordinate science.⁶⁰ Moreover, as the cause from which the effect is deduced approaches more closely to the final reason why things are as they are, science becomes purer and less applied, requires fewer basic assumptions, and acquires exactitude and priority. Thus arithmetic is prior to harmonics, which is an application of arithmetical ratios to empirical data like sounds, and it is also more exact than geometry because it does not have to reckon with the additional spatial factor which geometry has to take into account.⁶¹

We can now estimate more clearly the interplay of induction and deduction in the game of science. We start up the field, as we have seen, backed by our perceptions. But these in themselves, registering, as they do, only particular data here and now, involve no sense of what is always and everywhere true.⁶² Again, repeated or even a single perception may give rise to inductions that may break through the line and, in a single brilliant run, score a touch-down by revealing the "commensurate universal" and the ground of the phenomenon in question.⁶³ Newton, musing in an orchard one summer day, leaped from the percept of a falling apple to the assumption that a law existed "commensurately universal" with the behavior of all bodies in one another's presence. Still, such induction, however correct and brilliant it may be, is no more than opinion, and the touch-downs it makes cannot count, till they have been validated by a deduction, obedient to the laws of the syllogism and charged with both causal and logical necessity, that *demonstrates* the *necessary* connection of the facts with their assumed cause.

⁶⁰ *An. Post.*, I, 13, 78a, 22 ff.

⁶¹ *Ibid.*, 27, 87a, 33 ff.

⁶² *Ibid.*, 31, 87b, 28 ff.

⁶³ *Ibid.*, 88a, 2 ff.; 34, 89b, 10 ff.

To be clinched, a demonstration of this sort must pass the test imposed upon the basic premises of science. These, we saw, must be "reciprocating" propositions in which subject and predicate are co-extensive and therefore convertible without change of distribution. So, too, to *demonstrate* a necessary connection between cause and effect we must prove not only that the cause must give rise to the effect in question but that no other cause can produce it. Of course, apparently similar conditions in different classes of things may have different causes, but, Aristotle feels, this does not alter the contention that in any particular class a given effect can have but one cause. So long as a plurality of causes exists, we have not sufficiently analyzed our group into its constituent species.⁶⁴

In believing that single and reciprocating causes for all effects were eventually demonstrable, Aristotle showed perhaps the same overconfidence in the power of science as he evinced in his conviction that induction could reach universal truths. Since our telescopes cannot sweep the whole heaven, or our minds the future and the past, even a generalization like the law of gravitation, as we have seen, cannot be regarded with absolute certainty as "what is always and everywhere." So, too, in the realm of cause and effect we can never be completely assured that we have grasped the whole cause and nothing but the cause, or be certain beyond doubt that different causes may not at different times give rise in the same species or individuals to identical effects. In short, here as elsewhere the Aristotelian ideal of science has proved impossible of attainment.

To return now to the process of demonstration as Aristotle conceives it. If we reflect a moment we shall find that we have returned to something very like the theory of "predicables." In showing *why* a thing exists, we start with the biggest box in the nest, and then fit in the next smaller boxes one after another, till finally we have the thing in question neatly enclosed layer by layer in a series of middle terms so tightly and solidly packed that it cannot rattle if we try to shake it. But this, we may remember, is precisely what we do when we seek to define the essential nature of an object. Starting with the genus or

⁶⁴ *An. Post.*, II, 16-17, 98a, 35 ff.

universal as a sort of outer skin we peel off enclosing *differentiae* one by one, till we finally reach the species at its heart. It looks very much, then, as if definition and demonstration were closely allied.

This Aristotle finds to be the case. Definition and demonstration are, to be sure, different things. "Definition does not prove that the thing defined exists."⁶⁵ Nor can any sort of logical proof account for *what* a thing is.⁶⁶ Essences cannot be demonstrated; they can only be described. Moreover, their description entails more than the closing in and narrowing down that demonstration and definition have in common. This method of procedure is, indeed, a useful accessory, but a definition is really established by the reverse process of starting with the species and then discovering the exact sum of the general qualities that exist *together* in it alone.⁶⁷ For example, walking on two legs and bringing forth live young and suckling them in infancy are universal characteristics of the rational animal "man." They are also, taken severally, universal characteristics of other species of animals. All chickens walk on two legs, all vipers bring forth their young alive, and all cats and dogs suckle their offspring. But man is the only animal in which these attributes are *combined* and outside of which this special combination of qualities is never found. They enter therefore into his definition. And his complete definition, like that of anything else, will be formulated by finding the precise number of attributes that "are severally of wider extent than the subject but collectively co-extensive with it. For this synthesis must be the substance of the thing."⁶⁸

But, as we saw in discussing the theory of the predicables, these attributes may be arranged in a concentric order of wider and wider inclusiveness. To reach the definition of the genus to which the species belongs, this order must be carefully determined. By comparing different individuals that resemble one another we extract the fundamental characteristics of their

⁶⁵ *An. Post.*, II, 7, 92b, 19 ff.

⁶⁶ *Ibid.*, 3-7, 90a, 35 ff.; cf. Ross, *op. cit.*, pp. 49 ff.

⁶⁷ *Ibid.*, 13, 96a, 20 ff.

⁶⁸ *Ibid.*, 32 ff.

species, and by again comparing these characteristics with those of other species we discover something common to different sorts of things. This process we may continue, till eventually we reach a set of features shared by all the species in question, or in other words, a single formula applicable to all the individuals under scrutiny, however different their species may be.⁶⁹ Every mother's son of a man, beast, bird, insect, and fish may be defined as an animal. Whatever else he may be, he is essentially an animal. Here we have reached the final and the only point of agreement among *all* the members of Nature's "zoo." In short, we have reached a *genus*, and a *sum-mum genus*, the antipodes of an *infima species*, at that.

In working towards the genus we must always be on our guard against being taken in by surface resemblances and common names. For example, an apparently simple quality like pride, turns out on analysis to mean different things in different individuals. Unless some least common denominator for these meanings can be found, no single wider class in which pride belongs can be worked out. The one name will cover loosely a multitude of species, each one of which belongs in a different genus.⁷⁰

So much for definition as a thing apart from demonstration. In spite of its independence, however, it always does involve a knowledge of the cause of the thing defined. The cause will feature among the essential attributes.⁷¹ Suppose, for instance, I try to state *what* an eclipse really is. I may start by giving a snap definition founded upon observation alone, as "privation of the moon's light."⁷² Indeed, unless the reason for the thing is so transparent as to be grasped along with its existence, we always start with a nominal but incomplete definition. But I soon find that I cannot define the eclipse satisfactorily without first knowing *why* it occurs. So far as my observation is concerned, it may be due to the moon's rotation or extinction, or to the earth's acting as a screen.⁷³ To find out which of these is its cause, or, in terms of the syllogism, to

⁶⁹ *An. Post.*, II, 13, 97b, 7 ff.

⁷⁰ *Ibid.*, 97b, 11 ff.

⁷¹ *Ibid.*, 3, 90b, 33 ff.; 8, 93a, 1 ff.

⁷² *Ibid.*, 2, 90a, 15 ff.

⁷³ *Ibid.*, 2, 90a, 3 ff.

discover the middle term that connects the moon with privation of light, is equivalent to grasping the essential property of lunar eclipses.

Rotation or extinction will not fit the case when more closely examined. Used as intermediate boxes in the nest, they leave vacancies in which they rattle. But from the interposition of the earth between the sun and the moon the phenomenon may be necessarily deduced. Interposition, therefore, proves to be the box that just fits, or, in other words, the middle term that is "commensurately universal" with the occurrence of eclipses. So, at last, in answering the question *why* the phenomenon occurs I have stated *what* it essentially is. A lunar eclipse is "the privation of the moon's light by the interposition of the earth."⁷⁴ Were I standing on the moon, however, I should not have had to look for this middle term. The "why" would have been immediately apparent in the "what," since from a lunar point of observation I should have *perceived* the earth standing between myself and the sun and cutting off the sunlight.⁷⁵

Any one of the four causes may serve as the universally commensurate middle term and means of "sizing up" the essential property. The eclipse we defined apparently in terms of "the antecedent that necessitates a consequent," by which Aristotle seems to mean the material cause. But on this point, and in his general logical use of the material cause, his meaning is obscure.⁷⁶ The efficient cause would have to be invoked in describing an event like the entry of the Athenians into the Persian War.⁷⁷ Nor could the essence of the after-supper stroll or of a house be defined without reference to its purpose or final cause of keeping one fit or sheltering one's worldly goods.⁷⁸ Of the use of the formal cause as a middle term for placing things in their proper niches Aristotle gives no instance. Here again, as in the case of the material cause, he is obscure. His view seems to be that the formal cause has always to appear in the

⁷⁴ *An. Post.*, II, 2, 90a, 15 ff.

⁷⁵ *Ibid.*, 2, 90a, 24 ff.

⁷⁶ Cf. Note to *An. Post.*, II, 11, 94a, 22 (Oxford trans.); also Ross, *op. cit.*, pp. 51-52.

⁷⁷ *Ibid.*, II, 94a, 36 ff.

⁷⁸ *Ibid.*, 94b, 8 ff.

definition since it states the thing's exact measure and makes it just what it is and nothing else.⁷⁹

Although, then, the essential nature of a thing is not scientifically demonstrated into existence by syllogistic proof, it can only be uncovered and exhibited for the purposes of science by arguing syllogistically from causes to their necessary effects.⁸⁰ Needless to say, however, this rule does not apply to the basic assumptions of science, for which no cause can be found or even demanded. In their case, as we have already seen, demonstration plays no part in determining the essence. "Not only *that* they are but *what* they are must be assumed or revealed in some other way." The essence, for example, as well as the existence of the unit is taken for granted by the arithmetician. No cause for the unit's being, or for its being what it is, can be sought outside itself. All our basic premises are "immediates" of this sort whose demonstration is an "indemonstrable positing of essential nature."⁸¹ This "positing," we may remember, is an act of rational intuition justified by the identity of reason with the rational constitution of the universe.⁸²

⁷⁹ Cf. Note to *An. Post.*, II, 11, 94b, 22. (Oxford trans.)

⁸⁰ *An. Post.*, II, 8, 93b, 15 ff.; 9, 93b, 25 ff.

⁸¹ *Ibid.*, 9, 93b, 21 ff.

⁸² Cf. *supra*, p. 184.

CHAPTER IX

THE ARISTOTELIAN ETHICS

OF all Aristotle's works the *Nicomachean Ethics* has produced the most profound and the most lasting impression upon western thought. Indeed, it has woven itself into the essential texture of European civilization, and its golden thread still runs through our modern thinking, sometimes lost, to be sure, in a tangle of coarser and darker strands, but never broken, and ever re-emerging to gleam again in the pattern of any enlightened and reflective theory and practice of morals. The point of view, however, that it sets forth was spun out of many years of meditation and of a process of change and development, if not of actual reversal, of opinion. It may, then, be interesting to spend a moment in outlining Aristotle's first speculations on the subject and in tracing the growth of his ethical system.

In morals, as in metaphysics, his early period and style are Platonic. Plato, we should remember, had tried in the *Philebus* to establish ethics on a basis of mathematical exactitude and to formulate a moral equation that would express with geometric precision the components and the ratios of the good life.¹ This ideal of an absolute good, definable in rigidly scientific terms, dominates, we may also recollect, the wise advice regarding statecraft given the Prince Themistion by Aristotle in the *Protrepticus*.² There, too, moral and political insight is regarded as an exact science, the gift of a wisdom in immediate contact with the eternal and absolute norms of righteousness.³ Indeed, we are told, the true statesman is distinguished from the politician in that he is a spectator of real existence rather than of the variegated images of the realm of appearance.⁴

¹ Cf. Jaeger, *op. cit.*, p. 87.

² *Ibid.*, *op. cit.*, pp. 85 ff.

³ *Ibid.*, pp. 91-92.

⁴ *Ibid.*, p. 87.

This adherence to an absolute and exactly definable good stands in striking contrast to the doctrine of the *Nicomachean Ethics*. There the distinction between exact and empirical science is again drawn, but now ethics and politics are classified as empirical and practical, not theoretic and absolute.⁵ The good they are to study and to formulate is not divinely instituted, but is expressive of the particular nature and needs of the human organism, and is valid for it alone.⁶ It is not suspended from on high but supported from below, and in their search for it the statesman and moralist alike are urged to keep their ears to the ground rather than their eyes on the heavens.⁷

So complete a pirouette is startling. But, fortunately, if we accept the *Eudemian Ethics* as a genuine work of Aristotle's, we have a device that, like the slowing up of a moving-picture film, enables us to catch some, at least, of the connecting movements in Aristotle's mind. He no longer whirls from one position to the other without intervening documentation to trace his course; he reverses himself at a rate that can be followed. The *Eudemian Ethics*, however, is still under suspicion, so we must use it with reserve. But even if it was written, not by Aristotle, but by his Rhodian pupil, it sets forth a point of view intermediary between that of the *Protrepticus* and that taken by the *Nicomachean Ethics*, through which Aristotle may reasonably be expected to have passed in his transition from the one to the other. The disciple, we might feel, had merely reverted to a position once held by the master but later outgrown. In any case, the interpolation of the *Eudemian Ethics* at this point gives us a fairly continuous sequence of moral theory from the *Philebus* of Plato to the *Nicomachean Ethics*.⁸ Let us then briefly consider it in this connection and light.

In the interval between the *Protrepticus* and the *Eudemian Ethics* Aristotle had definitely abandoned the Platonic Ideas, and along with them the view that ethics is fundamentally an

⁵ *Eth. Nic.*, I, 7, 1098a, 26 ff.

⁶ *Ibid.*, I, 6, 1096b, 26 ff.

⁷ *Ibid.*, X, 9, 1180b, 29 ff.; cf. Jaeger, *op. cit.*, pp. 87-88.

⁸ Jaeger, *op. cit.*, p. 278.

intuition by the soul of a transcendent, metaphysically existent Good.⁹ The nature of the good is now to be inferred, "using perceived facts as evidence and illustration," rather than argued *a priori* on philosophic principles. Indeed, he tells us, although the philosophic method has still its uses and is not to be disdained, it must be employed with great caution, since it is only too likely to find reasons for things that are really foreign to the subject, and hence is apt to lead scientific investigation astray.¹⁰ At the same time, critics find that the break with the "philosophic method" is not so sharp as it is in the *Nicomachean Ethics*. The notion may have disappeared that the moral law is laid up in heaven, where it is accessible to a wisdom or "pure reason" exercised independently of practical experience. But the spirit of the *Protrepticus* still lingers in a feeling that, even so, "pure reason" still plays an important part in solving moral and political problems.¹¹ The Platonic faculty of "wisdom," we are told, deprived of its original object of contemplation, the Idea of the Good, turns in the *Eudemean Ethics* to the vision of God. And the life lived by God still determines *a priori* the best life for man and sets the standard for practical morals. The moral life is essentially a pious and religious life, a service and an imitation of God. The measure of rightness in an act is the degree to which it breaks with the world of sense and with all that is all too human in us, and the extent to which it raises us to the divine.¹²

By the time, however, that the *Nicomachean Ethics* was written, God, it is said, had disappeared almost as completely as the Idea of the Good from Aristotle's moral theory. The divine life was, to be sure, still the best life for man.¹³ But God was now the God of the *Metaphysics*. He had lost ethical importance and was primarily a scientific hypothesis. He had ceased to be a philanthropist and had become merely the First Cause of motion. His life was that of a reason without outside

⁹ *Eth. Eud.*, I, 8.

¹⁰ *Ibid.*, 6.

¹¹ Jaeger, *op. cit.*, pp. 243-244.

¹² Jaeger, *op. cit.*, pp. 249 ff.; cf. Ross, *op. cit.*, p. 234; also *Eth. Eud.*, VII, 14, 1248a, 29 ff., 1249b, 20 ff.

¹³ *Eth. Nic.*, X, 7, 1177a, 11 ff.; also 1177b, 25 ff.

contacts or interests, absorbed wholly in contemplation, and in the contemplation of itself alone. If, then, this was the best life for man, obviously such a life fell almost altogether outside the sphere of ethical theory and practice. The divine within us expressed itself primarily not in moral but in intellectual activity, and was, indeed, most completely revealed in human form in the impartial and unprejudiced attitude of the pure scientist whose concern is not with good and evil but with truth.¹⁴

In these circumstances ethics could deal only with the distinctively human, not the divine part of our nature. Its proper study was not God but man. Its business was to deal with the activities "that befit our human estate."¹⁵ The ideal of happiness with which it was chiefly concerned was not the blessedness that accompanies the exercise of the intellect in and for itself, but the well-being that arises from the balanced and harmonious realization of the entire complex structure of human nature as such. And the Platonic "wisdom" of the *Philebus*, which in the *Protrepticus* and the *Eudemian Ethics* had still figured as a vision of God and of the supernatural sanctions for human good behavior, now became, when applied to ethics, a review of the instincts, interests, and capacities of the human animal and a revealer of the purely natural sanctions for a moral order.¹⁶

Further evidence is brought forward in support of this evolution of Aristotle's moral theory from Platonic beginnings to the scientific naturalism that marks the *Nicomachean Ethics*.¹⁷ But we have noted enough to indicate a possible line of development. Still, we must remember that this line is a matter of conjecture, and that the subject is obscure. One thing only is incontrovertible, and that is the absence of religious and pious overtones from Aristotle's final theory and the strictly scientific temper in which he there approaches his subject.

All our activities, artistic, scientific, practical, and the like, the opening lines of the first book of the *Nicomachean Ethics* point out, aim at some good. This good may be either a state

¹⁴ *Eth. Nic.*, X, 8, 1178b, 10 ff.

¹⁵ *Ibid.*, 1178a, 8 ff.

¹⁶ Cf. Jaeger, *op. cit.*, pp. 249 ff.

¹⁷ Cf. Jaeger, *op. cit.*, pp. 254 ff.

of activity or a product of action. And the attainment of certain ends may prove to be at the same time a means towards some further goal. There must then be some final end or good, be it an activity or a product thereof, for the sake of which all other goods are desired, and upon which all our activities converge. A knowledge of this highest good, which is desired for its own sake, and for the sake of which everything else is desired, is of the greatest importance for the ordering of human life. The science that studies this ultimate goal and determines its nature is politics, or as we should say, ethics.¹⁸ Such a science, dealing as it does with a fluctuating and relative subject-matter, cannot do more than "indicate the truth roughly and in outline." It would be as foolish to expect exact and dogmatic statements from it as it would be to accept merely "probable reasoning from a mathematician and to demand from a rhetorician scientific proofs."¹⁹ Incidentally, Aristotle points out, a science of this sort can be profitably developed and understood only by men of mature experience and mind. Even if the shoulders are still young, the head must be old.²⁰

Having thus had a dig at Plato and established ethics as a purely empirical and relative science, Aristotle turns to consider the nature of the final good that is desired for the sake of nothing else, and for whose sake everything else is desired. There is no difficulty in naming it. All men are agreed that it is *happiness*.²¹ But what constitutes happiness is another matter. Pleasure, riches, honor, virtue, amusement, the Platonic Idea of the Good, to mention only the more possible candidates, press forward for the position.²² The claims of wealth we may eliminate, at once, for money, even if it be mistakenly loved for its own sake, is not desirable in itself but only for such further happiness as it brings.²³ The Idea of the Good must follow suit, sad as it is for Aristotle to say so. It is open to all the objections urged in the *Metaphysics* against the Platonic Ideas in general. Furthermore, in the field of ethics good cannot be predicated in a single sense of the different

¹⁸ *Eth. Nic.*, I, 1-2.

¹⁹ *Ibid.*, 3, 1094b, 11 ff.

²⁰ *Ibid.*, 3, 1095a, 2 ff.

²¹ *Ibid.*, 4, 1095a, 14 ff.

²² *Ibid.*, 4, 1095a, 20 ff.

²³ *Ibid.*, 5, 1096a, 5 ff.

categories, nor, when emptied of its diverse and relative content, is it more than an empty shell. Just straight goodness, divorced from everything else and considered in isolation, is good for nothing.²⁴ Amusement, too, comes an immediate cropper, for happiness is something that one takes trouble and suffers hardship all one's life to attain, whereas "to exert one's self and work for the sake of amusement seems silly and utterly childish." Amusement is rather a relaxation which we need "because we cannot work continually." But it is the work that makes us happy, and we relax in order to work better rather than work for the sake of relaxation.²⁵ There remain, then, in the field pleasure, on which the mass of mankind places its bet; honor, or the virtuous and respectable complacency of eminent citizenship, which is backed by "people of superior refinement and active disposition"; and finally a dark horse, which must remain such for the present, known as the contemplative life. But a "moral," respectable existence, however complacent and crowned with honor, now shows signs of being winded and dropping by the wayside, for the living of such a life and the possession of exemplary morals "seem actually compatible with being asleep, or with lifelong inactivity, and further, with the greatest sufferings and misfortunes; but a man who was so living no one would call happy unless he were defending a thesis at all costs."²⁶ To the more philosophical Cynic doctrine of "morality" for morality's sake, we shall return later.

The claim that pleasure constitutes happiness Aristotle considers later in Books VII and X. But while we are engaged in eliminating old favorites as a preliminary to picking a new winner, we may as well look it over, although in so doing we alter the order of Aristotle's discussion. His investigation is long and detailed and testifies to the strength and importance of the Cyrenaic teaching. With the anti-hedonistic arguments advanced by Plato and Speusippus he is, however, as impatient as he is with Eudoxus' adherence to the Cyrenaic doctrine that

²⁴ *Eth. Nic.*, I, 6, 1096b, 8 ff.

²⁵ X, 6, 1176b, 28 ff.

²⁶ I, 5, 1095b, 22 ff.; 1026a, 2; X, 8, 1199a, 1 ff.; 13, 1153b, 20 ff. The reference is probably to the Cynics. Cf. Stewart, *Notes on the Nicomachean Ethics*, I, pp. 66-67.

pleasure is the end towards which all our activities are directed. The extreme position held by the Cynics and Speusippus that no pleasure is a good, and Plato's more moderate contention that most pleasures are not good, and that, even if all were, pleasure as such would still not be *the* good, are, he thinks untenable.

Much of the evidence adduced by Speusippus—that pleasures, in proportion to their pleasurable-ness, hinder thought; that there is no distinctive art for producing pleasure as there is for producing everything else that is good; and that pleasure is avoided by the temperate and the wise, and only pursued by irrational beings like children and animals—is dismissed by Aristotle as unconvincing and beside the point.²⁷ Certainly the pleasure we take in thinking does not impede thought,²⁸ and the fact that the wise man avoids the pleasures children and animals pursue does not mean that he has no pleasures of his own.²⁹ And what is a *good* chef or perfumer but an artist in producing pleasure?³⁰ The truth is that the goodness or badness of pleasure is relative to person, time, and circumstance.³¹

So, too, the Platonic exhibit of base and unhealthy pleasures³² does not incriminate pleasure as a whole. Even thinking may be sometimes injurious to the health, but thinking is not therefore bad in itself.³³ Nor would the fact that some or even most pleasures were base prevent some sort of pleasure from being the highest good.³⁴ Nay more, very few pleasures really are base or harmful. The great run of physical pleasures, for example, even the most violent ones, are not so unless carried to excess; and so far as "they are harmless, their practice is irreproachable." Only when pleasure is hurtful, or when it breeds an overmastering or painful desire, is it bad. Normally, however, the natural and necessary pleasures of a healthy nature do not lead to excess and do not involve pain.³⁵ At any rate, it is hard to see how a happy life can avoid being pleasurable, or how a life without pleasure can be re-

²⁷ VII, 11, 1152b, 1-12, 1152b, 26.

²⁸ VII, 12, 1153a, 20 ff.

²⁹ *Ibid.*, 1153a, 27 ff.

³⁰ *Ibid.*, 1153a, 24 ff.

³¹ *Ibid.*, 1152b, 25 ff.; cf. 14, 1154b, 20 ff.

³² *Ibid.*, 1152b, 20 ff.

³³ *Ibid.*, 1153a, 20 ff.

³⁴ *Ibid.*, 1153a, 17.

³⁵ VII, 14, 1157a, 8 ff.

garded as happy. The Cynics,³⁶ when they maintain that "the man who falls into great misfortunes is still happy, if he is good," are talking nonsense whether they mean to or not.³⁷

Nor will the more philosophical argument advanced by Plato and Speusippus hold water—that pleasure cannot be the good because it is not a state of being and an end in which we come to rest, but rather a restless process of becoming that state and attaining an end.³⁸ In the first place, to say that pleasure is a process has no bearing upon its goodness or badness. Processes are no more bad in themselves than states are good in themselves. The good or evil in them is not intrinsic but is introduced into them by external circumstances, and is dependent upon person, time, and duration. Moreover, the very processes with which pleasure is identified by the anti-hedonists—the processes of removing want or pain—are not really pleasurable. The seeming pleasure that attends them is merely a feeling of increasing relief from the disagreeable, and is incidental to our restoration to a healthy and natural state. But, even then, the state of attained relief is not one of pleasure in itself "naturally, and without qualification." It is merely a state in which we can at last begin to enjoy true, positive pleasure.³⁹

The upshot of the matter is that all this talk of "process" and "state" has no bearing upon the question. Pleasure is neither one nor the other. It is an "activity," which must not be confounded with "process." It does not "arise when we are becoming something, but when we are exercising some faculty." Nor does it have any end outside its own enjoyment, except in the case of "persons who are being led to the perfecting of their nature." It consists, not in perceiving the process of removing impediments, but in the unimpeded activity of the natural state—which is an end in itself.⁴⁰

These objections to the Platonic position are in part repeated, and in part expanded, in Book X. That pleasure is better for the addition of wisdom, as Plato maintained, may

³⁶ Cf. Stewart, *op. cit.*, II, p. 150.

³⁷ VII, 13, 1153b, 19 ff.; cf. I, 9, 1100a, 5 ff.

³⁸ VII, 12, 1152b, 12 ff., 22-24.

³⁹ *Ibid.*, 1152b, 25-1153a, 7.

⁴⁰ *Ibid.*, 1153a, 7 ff.

indeed be an argument against its being *the* good, but not against its being *a* good. Moreover, Eudoxus and the Cyrenaics had Plato hoist with his own petard when they pointed out that anything—even justice or temperance—is better for the addition of pleasure; though in so doing they invited a counter-hoisting, as we shall soon see. Again, on the ground that evil can be opposed both to evil and to a neutral state as well as to good, some people argue that the goodness of pleasure cannot be inferred from the badness of pain. So far as logic is concerned, they say pleasure might just as well be neither good nor bad, or for that matter that it might be another evil. But, whatever the possibilities allowed by logic, experience steps in to prove conclusively that pleasure is neither bad nor indifferent but positively good.⁴¹ Nor, again, does the fact that pleasure is not a quality disbar it from goodness; for virtuous activities and happiness, which are plainly good, are not qualities either. Furthermore, the argument is fallacious that pleasure cannot be a good because it admits of degrees and is therefore indeterminate. The experience of pleasure, to be sure, may be more or less intense, but so may the experience of undoubted goods like justice or temperance. And in the Platonic mixed pleasures, so called because of the admixture of want or pain, the evil might be due, not to variation of the pleasure as such, but to the presence of the adulterant. Nor, for that matter, does the presence of degrees render a thing indeterminate. Health, for example, is a definite proportion or balance, yet it admits of degrees and may be more or less present in different people or in the same person.⁴²

Having brought forward these criticisms of the current arguments against hedonism, Aristotle turns to the defense of his somewhat dogmatic and unsupported statement in Book VII that pleasure is not a "process." It is certainly not a movement, he tells us, for motion has velocity, and velocity is not absolute but is relative to a co-ordinate, and this cannot be said of pleasure. To be sure, we may pass quickly or slowly to a condition of pleasure, but when we *are* pleased, we are not quick

⁴¹ X, 3, 1173, 5 ff.

⁴² *Ibid.*, 1173a, 13 ff.

or slow about it. We are just *pleased*.⁴³ Moreover, pleasure, unlike motion, is complete at any given moment. It is the nature of motion to have a whence or a whither, to reach out into the future, to be divisible into segments, no one of which displays the nature of the whole, to be incomplete at any one instant, and to complete itself and attain its form only in a period of time. Pleasure has none of these characteristics. It may, indeed, continue, but each instant that we feel it, it is all there in its entirety and is completely and absolutely pleasure.⁴⁴

Pleasure, then, cannot be "process" or "becoming" in the sense of movement. But neither can it be a "process" in the sense of generation, or "coming into being." For what is it that becomes pleasure? And into what is pleasure dissolved when it is destroyed by pain?⁴⁵ Moreover, "*coming into being*" is only predicable of things that are built up part by part and are therefore divisible. It is not predicable of indivisible wholes, whose nature is given at one fell swoop. But pleasure is an indivisible whole. Like seeing, it is either there or not there. There are no intermediate steps between its presence and its absence.⁴⁶

Again, it cannot be a physiological process of replenishment and removal of want, such as takes place, for instance, when the body satisfies its hunger. Eating, to be sure, is pleasant, but the act of eating and the pleasure the act gives are two different things, just as an operation, however painful, is not itself pain. Moreover, if pleasure could be reduced to nothing but a physiological process of this sort, then not only should all physical pleasures be of the replenishment type, but all pleasures should be physical. But, how about physical pleasures, like those of smell, and sight, and sound, which do not remove a previously felt want and do not fill an aching void? And how about the pleasures of memory and learning, which are not felt by the body? No, the Platonic objection to pleasure on the ground that it is a "process" is not convincing from whatever angle we approach it.⁴⁷

⁴³ X, 3, 1173a.

⁴⁴ X, 1174a, 13-1174b, 9.

⁴⁵ X, 3, 1173b, 4 ff.

⁴⁶ X, 4, 1174b, 9-14.

⁴⁷ X, 3, 1173a, 29-1173b, 19.

Having thus given the devil his due, Aristotle sets to work to exorcise him. The arguments of the Cyrenaics and of Eudoxus that pleasure is *the* good carry as little conviction, he continues, as does the Platonic contention that it is not *a* good. The fact that it is universally sought by all sentient beings and is, indeed, perhaps the only end they all have in common, does not prove the point. Neither does the universal avoidance of pain, its contrary, on the part of all things, nor even the fact that pleasure is sought, not for the sake of anything else but for its own sake alone, and that it enhances the value of everything it touches.⁴⁸ The Platonic objections are here straight to the point, and Aristotle reiterates them in spirit and largely in substance.

If the Platonic dismissal, or, at least, derogation of pleasure is rebutted by the hedonistic argument that the wisest and most virtuous life is better for being pleasurable, the hedonistic view, as we have just seen, is no less confuted by the fact that the most pleasurable life is better for being also wise and virtuous. Here honors are at any rate even.⁴⁹ Furthermore, the argument that all pleasures, even disgraceful ones, are good because they are pleasurable may be countered on the hedonistic level without any appeal to further standards. It is doubtful if all so-called pleasures are really even pleasurable. Bitter may taste sweet to the sick man, but there is a mawkish, equivocal value to such sweetness. A thing may appear white to a diseased eye that would not do so to a healthy one. Now, are not disgraceful pleasures in the same class? They please the vicious man, to be sure, because of a defect in his constitution, but they are not universally or intrinsically pleasurable. And their pleasantness is of the dubious, invalidish, bitter-sweet quality.⁵⁰

Again, even granting that such pleasures had intrinsic goodness, we might still say that they were not desirable at the price one had to pay for them. Plato had driven this point home by the example of itching and scratching.⁵¹ Aristotle reinforces the contention on a higher level. "Wealth is desirable,

⁴⁸ X, 2, 1172b, 10 ff.

⁴⁹ X, 2, 1172b, 9 ff.

⁵⁰ X, 3, 1173b, 20-25.

⁵¹ *Gorgias*, 481 C ff.

but not as the reward of betrayal." So is health, "but not at the cost of eating anything and everything."⁵² How many of us to-day, for example, would take to eating spiders, even if we had irrefutable evidence that such a diet would cure our aches and pains and keep us in the pink of condition? Obviously, then, the pleasurable-ness of pleasure is not sufficient to constitute its goodness. The source has to be taken into consideration as well. Indeed, it begins to look as if pleasure, taken just as pleasure, were not a single, indivisible genus. We seem rather to be dealing with things different in kind. The pleasurable-ness of a noble act is not the same quality as the pleasurable-ness of an ignoble one.⁵³

These suspicions are confirmed, if we reverse the argument and approach the matter not so much from the angle of the goodness of pleasure as from the pleasurable-ness of the good. We instinctively prefer the friends "who consort with us with a view to the good" to the flatterers who do so with a view merely to our pleasure. Indeed, those who have only our pleasure in mind are commonly reproached by us, whereas those who have our good at heart are praised. In other words, the organization of human society and the values connected with it testify to the fact that human happiness lies in more than pleasure.⁵⁴

There are, also, two further considerations that confirm us in holding that pleasure is not *the* good. Plato had intimated that human beings would prefer to remain human beings even though they were sure they could get more pleasure if they were turned into oysters or baboons.⁵⁵ Aristotle adds that no human being "would choose to live with the intellect of a child all his life, however much he were to be pleased at the things that children are pleased at." Nor would a man choose "to get enjoyment by doing some most disgraceful deed, though he were never to feel any pain in consequence."⁵⁶ In short, we would no more consent to be turned into babies than into baboons merely for the sake of a more pleasurable life, nor would we be willing to

⁵² X, 3, 1173b, 25 ff.

⁵³ *Ibid.*, 1173b, 28 ff.

⁵⁴ *Ibid.*, 1173b, 31 ff.

⁵⁵ Cf. *Philebus*, 21 A ff.

⁵⁶ X, 3, 1173a, 1-4.

perform an act we considered inhuman, however pleasurable that act was in itself and however painless its results. We instinctively desire to be human beings, to do nothing contrary to our nature, and to let that nature take its course.

Finally, if there were no such thing as pleasure we should still go on choosing and desiring to be ourselves and to perform the functions with which our nature has endowed us. "There are many things we should be keen about even if they brought no pleasure, e.g., seeing, remembering, knowing, possessing the virtues. If pleasures do necessarily accompany them, that makes no odds; we should choose them even if no pleasure resulted." Hence, pleasure cannot be the motivating spring of our actions and the end at which they aim.⁵⁷

"It seems clear, then," Aristotle concludes, "that neither is pleasure the good nor is all pleasure desirable." The horse backed by Eudoxus and the Cyrenaics has gone as lame as the other entries, wealth, honor, and virtue. Nevertheless, it is not completely crocked. It is equally clear—and here Aristotle seems to be giving the Cynics their quietus and warning the Platonists against too great austerity—that "some pleasures *are* desirable in themselves, differing in kind, or in their sources from the others."⁵⁸

We have now learned what pleasure is not. We have yet to learn what it is, what its relations to happiness as a whole are, and how to distinguish good from bad pleasures. Of its nature we have already been given an inkling. It is not a process or an end, is neither the shooting nor the target. It is, Aristotle has already told us, more in the nature of an activity. But this description is not wholly accurate. Pleasure is rather the completion or crowning of an activity. Take one of the senses for example. It has its proper function and its proper object. And its activity is unimpeded and perfect in proportion as the sense-organ is in a condition to perceive, and the object in one to be perceived, to the best advantage. The clearest vision, we might say, is that of the clearest object by the clearest eye. Now the pleasure connected with seeing is the sign, the awareness, that vision is functioning properly. It is more or less

⁵⁷ X, 3, 1174a, 4-8.

⁵⁸ *Ibid.*, 1174a, 8-12.

intense according as the eye is in good condition and the object upon which the eye is directed is worthiest of sight, and finest and most beautiful judged by the standards and demands of vision.⁵⁹

What is true of the pleasure attending upon sight is true of the pleasures that accompany all our activities, sensible and intellectual. In every case it is the mark and completion of appropriate functioning; that is, the sign that a healthy subject is concerned with a suitable object. "It arises most of all," we are told, "when both the sense is at its best and is active in reference to an object which corresponds; when object and perceiver are of the best there will always be pleasure, since the requisite agent and patient are both present." So long, then, as both the intelligible or sensible object and the discriminating or contemplative faculty are as they should be, pleasure will be involved in the activity.⁶⁰ And since, being only mortal, we tire and our activities flag, our experience of pleasure also varies, and becomes dulled as our interest relaxes.⁶¹

From the fact, however, that "every activity is completed by the attendant pleasure" we must not infer, paradoxical though this may seem, that without the pleasure the activity is incomplete. After all, as we have just seen, life would go on, and the organism would continue to perform its functions and in doing so to express and fulfill its nature, even if no pleasure resulted. And each of our activities would still be pursued for its own sake and be complete in itself. The presence or absence of pleasure does not affect the clearness of our vision or the fact that the organism naturally desires to see. We should still pursue knowledge just because we are wound up to do so, and our knowledge might be accurate and complete, even if the act of knowing gave no positive enjoyment.⁶² An activity, then, is not completed by pleasure in the same sense as it is completed by the fact of its own exercise — a fact that the good condition of the sensible or intellectual faculty and the presence of a suitable object are of themselves sufficient to establish and maintain. The completion that comes from mere exercise is

⁵⁹ X, 4, 1174b, 15 ff.

⁶⁰ *Ibid.*, 1174b, 28-31.

⁶¹ *Ibid.*, 1175a, 3 ff.

⁶² X, 3, 1174a, 4 ff.

immanent in the activity, is part of the day's work. The completion that pleasure adds to this completeness is rather a work of supererogation on the part of Nature. Pleasure supervenes on healthy functioning, not as an end deliberately pursued, failure to attain which frustrates the activity, but rather — and here Aristotle suddenly bursts forth with one of his finest and most poetic phrases — “as the bloom of youth does on those in the flower of their age.”⁶³

Still, in practice, the two sorts of completion are undistinguishable. Nature has made us such that the proper functioning of our organism is suffused with pleasure, whatever we may think about it. From living out our lives and busying ourselves with those things we love most, we cannot help deriving enjoyment. In aiming at life, then, and at the life to which we are best adapted, we are also aiming at pleasure, whether we intend to or not. For life and enjoyment of living “seem to be bound up together and not to admit of separation, since without activity pleasure does not arise, and every activity is completed by the attendant pleasure.”⁶⁴

We have now a criterion for distinguishing good pleasures from bad ones. Since pleasure is not an activity or faculty in itself, but is rather a property and a completion of other activities, there will obviously be, not one kind of pleasure, but as many different kinds as there are different kinds of activity. Each activity will have its special form of pleasurable completion, suitable to itself alone, by which alone it is intensified. The pleasure that the painter takes in painting cannot crown the interest a mathematician takes in working out a mathematical problem. Only the pleasure proper to mathematical activity can do that. For that matter, the pleasure attendant upon the exercise of one activity will inhibit the exercise of another almost as much as pain will. If we hate to do sums, we avoid them, or at the best it is an effort to do them. But it is an equal effort, even if we like doing them, when some one is playing to us music that we love.⁶⁵

Pleasure, then, having no complexion of its own, and being,

⁶³ X, 4, 1174b, 23 ff.

⁶⁵ X, 5, 1175a, 21–1175b, 24.

⁶⁴ *Ibid.*, 1175a, 10 ff.; cf. 5, 1175b, 30 ff.

as it were, a freshness upon whatsoever cheek it lies, will take on the color, fair or dark, of the activity it enhances. Hence its moral value, its goodness or badness, will be determined by the moral character of the activity it accompanies. "The pleasure proper to a worthy activity is good and that proper to an unworthy activity is bad." If the activity is neutral in moral value, the pleasure is likewise morally neutral. Moreover, human activities may be arranged in a scale. Some we call higher, some lower. This is true both of intellectual activity and sensation. Thought, of course, is higher than sensation, but among the senses "sight is superior to touch in purity, and hearing and smell to taste." The pleasures attending and "completing" these activities may be correspondingly graded.⁶⁶

Furthermore, every species of animal has its proper pleasures just as it has its distinctive functions. In the lower animals these are comparatively uniform. But man is so much an individual, and individual men are so different, that it is difficult to find a type of life and to determine a set of activities and pleasures that are good for all alike. Human nature fulfills itself in many ways, and what is one man's meat is another man's poison. Still, in spite of all this variety of self-expression, there is a standard of excellence common to all human beings. This standard is set by the man who, whatever his particular walk in life and his individual interests may be, we call good and happy. What he considers good we believe to be really good. If then, we would know what pleasures are good, we must inquire into the activities of the man we adjudge "perfect and supremely happy." Whether the activity upon which his happiness rests be one or many, "the pleasures that perfect it will be said in the strictest sense to be the pleasures proper to man." Other pleasures "will be so in a secondary and fractional way," as the other merely incidental activities are.⁶⁷

We are now back at precisely the point from which we started and are again confronted with the question, what is happiness? We have learned what it is not, but are not much wiser as to its true nature. We have distinguished between good and bad pleasures as those that accompany good and bad

⁶⁶ X, 5, 1175b, 24-1176a, 3.

⁶⁷ *Ibid.*, 1176a, 3 ff.

activities respectively. And the implication is that good activities or, to use another familiar phrase, proper functioning, brings happiness, bad activities, or improper functioning, its reverse. But we are still completely in the dark so far as any criterion for distinguishing good activity from bad activity is concerned. How are we to tell the difference between proper and improper functioning? How are we to know when an activity is as it should be? How are we to differentiate between suitable and unsuitable objects? What is the mark of "the perfect and supremely happy" man? In short, by what token are we to know right from wrong?

Let us, then, begin all over again, "return to the good we are seeking, and ask what it can be." Perhaps we need not go so far back, after all, for in the course of discovering what the good is not we have received many positive hints as to its real nature. We have already agreed to call it *happiness*. We know that it is desired for its own sake alone, and that all other things are desirable only in so far as they contribute to it. We know that in itself it is sufficient to make "life desirable and lacking in nothing," and therefore is not one among the many good things life needs but rather the summation of them all. We know that it is that at which all our living aims. It is then "something final and self-sufficient and is the end of action."⁶⁸

But we also know by this time that happiness is not an end external to action. It does not lie in the future, nor does it, when attained, put a stop to the activity seeking it. We are not always *going to be* happy to-morrow or the next day. We may be and *are* happy here and now.⁶⁹ Happiness is something immanent in our activities and present in our daily living. However, Aristotle is careful to point out that a certain length of life is necessary to the attainment of the good. Nobody would call one dead in childhood happy, however happy his childhood might have been. For such an one would not have lived long enough to express in his activities the whole of his human nature.⁷⁰ "One swallow does not make a summer, nor does one day; and so, too, one day or a short time does not make a man

⁶⁸ I, 7, 1097a, 15-1097b, 21.

⁷⁰ I, 9, 1100a, 1 ff.

⁶⁹ I, 10, 1100a, 10 ff.

blest or happy.”⁷¹ Indeed, Aristotle even goes so far as to extend beyond a man’s death the completeness of life necessary for happiness, and to ask whether an individual can be called happy who is not honored after he is dead, or whose descendants or friends meet with great misfortunes. The point is discussed in language suggestive, at times, of grief and rejoicing on the part of the dead according as good or evil fortune befalls the living. But in view of Aristotle’s express disbelief in personal immortality this can hardly be his meaning.⁷² We may gather it more correctly from our own habit of speaking of a dead man as being unhappy in his children or his associates, without thereby implying that in the hereafter he knows of their calamities and is upset by them. In any case, Aristotle’s conclusion is that, although what happens to the friends or descendants of the dead man must influence to some extent our judgment of his career, it is negligible so far as our estimate of his essential happiness is concerned.⁷³ This can scarcely be otherwise, since the fortunes of a family fluctuate so much, and are so various, that the happiness of an ancestor affected by them would be spotty and in a continual see-saw—which would be a very odd state of affairs indeed, as Aristotle remarks,⁷⁴ and one, we might add, calculated to make historians and biographers cross-eyed and to keep them in a turmoil of incessant revision of judgment.

But let us leave the dead to bury the dead and return to the living. We have a last preliminary remark to make about the activities that bring happiness. Being human, and coming as he does endowed and stamped with a special kind of organism and with distinctive activities, it will be his particular human make-up that determines the existence and the nature of the life good and happy for man as such. Individual men have, to be sure, their different vocations in which their particular natures find self-expression. And the different parts and organs of any one man have their special functions. But

⁷¹ I, 9, 1098a, 18–20.

⁷² On this point *cf.* Stewart. *Notes, etc.*, I, p. 142; note to 1100a, 19. Burnet, *Ethics of Aristotle*, p. 49 note to same passage.

⁷³ I, 10, 1100a, 17 ff.; *cf.* 11, 1101a, 22 ff.

⁷⁴ *Ibid.*, 1100a, 27 ff.

over and above the functions peculiar to its individual constituents, mankind must also have a distinctive function of its own which is expressive of its essence and sets it apart from all other kinds of being. With the proper exercise of this function human happiness in general will be bound up.⁷⁵

What, then, is this activity? It is not just being alive, neither is it living and also perceiving. For mankind shares its physical activities and pleasures, and those of sensation as well, with the other animals. Man's distinguishing mark is his possession of reason and his capacity for living according to its dictates. Whatever, then, a man's special make-up and bent may be, he will also have, by virtue of being human, the power to organize on rational lines the proclivities with which Nature has endowed him, and to live, be he carpenter, or sculptor, or tanner, in a reasonable manner. And he will be adjudged good, in proportion as his behavior implies the presence and the guidance of a rational principle. In short, "human good turns out to be activity of the soul in accordance with virtue, and if there be more than one virtue, in accordance with the best and most complete," expressed, we must repeat once more, "in a complete life."⁷⁶ Such activity, Aristotle reiterates, perhaps with the Cynic doctrine of virtue for virtue's sake still in mind, will necessarily involve pleasure, not indeed "as a sort of adventitious charm" external to itself, but as a part of itself inseparable from its preoccupation with noble things.⁷⁷ Furthermore, — and here, too, Aristotle seems to be thinking of the Cynics — not only is it impossible, as we have already seen, for a man, however "moral" he may be, to attain the good and be truly happy in the midst of great misfortunes, but a modicum of positive external goods such as friends, money, children, good birth, and good looks, is also necessary if human activity is to be carried on in the greatest accordance with virtue. "For," as he remarks, doubtless with Antisthenes' scorn of the amenities of life in mind, "it is impossible, or not easy to do noble acts without proper equipment."⁷⁸

Still, although happiness may be crushed and maimed by mis-

⁷⁵ I, 7, 1097b, 21 ff.

⁷⁶ *Ibid.*, 1097b, 21-1098a, 19; 9, 1100a, 4 ff.

⁷⁷ I, 8, 1099a, 7 ff.

⁷⁸ *Ibid.*, 1099a, 31 ff.

fortunes, it may, even so, defy them and rise in part triumphant over them. The major part of its foundation lies in activities that are comparatively immune to the blows of fortune, and it may be partially attained even in circumstances that "both bring pain with them and hinder many activities. . . . For nobility shines through when a man bears with resignation many great misfortunes," provided only his resignation be attained not through cultivating "insensibility to pain," as the Cynics taught, "but through nobility and greatness of soul."⁷⁹ Moreover, a man whose activities are in accordance with virtue can never be called wholly unhappy, whatever his circumstances may be, "for he will never do the acts that are hateful and mean." Indeed, he can never become truly miserable, even "if he meet with misfortunes like those of Priam," though, on the other hand, under such conditions he can never reach true "blessedness."⁸⁰ Happiness is not wholly or essentially dependent on chance. Nor is it a heaven-sent gift, divine though it may seem. Its foundations lie deep in the capacities of human nature, and "all who are not maimed as regards their potentiality for virtue may win it by a certain kind of study and care."⁸¹

When all is said and done, however, we cannot omit all reference to good fortune and material prosperity from our definition of the good. We must, then, expand it slightly, and now say that "he is happy who is active in accordance with complete virtue and is sufficiently equipped with external goods, not for some chance period but throughout a complete life."⁸² But we are still far from knowing what happiness really is. For the word "virtue" has kept cropping out again and again in the course of our discussion, and evidently dominates the situation. And yet we have, so far, no inkling as to what constitutes virtue. But until we know its nature how can we tell whether an activity is in accordance with it? Or again, it is all very well to talk glibly of our activities' being governed by reason; but how are we to know those that are from those that are not? What is the mark of rational behavior as dis-

⁷⁹ I, 10, 1100a, 30-1100b, 33.

⁸⁰ *Ibid.*, 1100b, 33-1001a, 8.

⁸¹ I, 9, 1099b, 9-31.

⁸² I, 10, 1101a, 14-16.

tinguished from irrational? Evidently we have still a long row to hoe.

We may set to work with the remark that Aristotle does not mean by "virtue" at all what we mean by it. For us the word has almost lost its association with any excellence save "moral" excellence. We should not think of saying that the man who played the flute well played it "virtuously," or that a good digestion was the mark of a "virtuous" stomach. But this is precisely what Aristotle and the Greeks would say. For them "virtue" meant excellence of any sort, and could be predicated just as properly of digesting or seeing or carpentering or playing the flute as of our so-called "moral" behavior. Indeed, Aristotle narrows down the scope of our search by expressly reminding us that the virtue we must study is the virtue of human beings, not of other things, and that among human beings we are concerned with the virtues not of the body but of the soul.⁸³ For the virtues of "vegetative" functions like nutrition or reproduction are "common to all species and not specifically human," and have no share in distinctively human excellence.⁸⁴ So, too, he probably would have added, the virtues of the senses and of the other activities of the sensitive soul fall outside our province. The excellence of all these functions contributes, to be sure, to human excellence in general. No man is a completely virtuous and happy human being who has bad eyesight or a defective digestion. Still, his essential excellence is displayed in connection with the activities of the rational part of his soul, both as their excellence in and for themselves brings him philosophy and understanding and practical wisdom, and as their guidance of his complex nature and life causes his behavior to be "liberal" or "temperate" or "just," and bestows upon him what we call "moral character." It is the virtues of these activities, both when at work and at play—of the intellectual and moral virtues, as Aristotle calls them, and more especially of the latter—that are the proper subject-matter of ethics.⁸⁵

The intellectual virtues can be acquired by teaching, but

⁸³ I, 13, 1102a, 14–18.

⁸⁴ *Ibid.*, 1102b, 2 ff.

⁸⁵ *Ibid.*, 1102a, 5 ff., 1103a, 3 ff.

“moral virtue comes about as a result of habit.” Particular moral habits and moral character in general are built up, like all habits, by the repetition of moral acts. Morality in its developed form is neither inborn in us, nor is it artificial and contrary to our nature. It is rather the actualization of possibilities latent within us. We cannot begin too early to actualize these potentialities in the right way, or, in other words, to form virtuous habits of action and develop a virtuous character.⁸⁶

Conversely, as a virtuous habit is built up and a good character becomes fixed, particular virtuous acts become less labored and more spontaneous. Indeed, to be really virtuous they must not be performed by chance or in a perfunctory manner. Just as happening to speak grammatically or accepting the suggestions of one’s teacher does not make one grammatical, so, unless one acts from knowledge and from choice, with a recognition of the value of moral behavior and in accordance with a settled disposition to act virtuously, one is not as yet actually virtuous but is in the process of becoming so.⁸⁷ To developing a virtuous habit of mind, from which good acts will proceed naturally and spontaneously, every wise legislator bends his efforts, and the constitution he devises is adjudged good or bad according to the fixed moral temper it produces in the citizens subjected to its provisions.⁸⁸

But we are still beating about the bush. The question is, how are we to know the virtuous from the vicious act? What is to be our criterion for distinguishing the moral habit and character? The answer seems still as far away as ever. And yet it is very simple, in its broad outlines, at least. To discover it, we have only to drop for the moment “virtue” in its narrow, “moralistic” use, and reflect upon what we mean by the virtue or excellence of any activity whatsoever. We shall, however, most easily ascertain when an activity is at its best if we first note the conditions that tend to destroy it.

Those conditions are of two sorts, and stand in violent opposition to each other. If we take more or less than a certain amount of exercise, or eat and drink more or less than a certain

⁸⁶ II, 1, 1103a, 14b, 25.

⁸⁸ II, 1, 1103b, 3-7.

⁸⁷ II, 4, 1105a, 17b, 18.

amount, our health is injured; whereas a medium quantity is good for us and keeps us well. More than this mean proportion is *too* much, less than it is *too* little. We find, then, the excellence or "virtue" of exercise or of eating by striking a mean between the extremes of excess and defect. The moral virtues are no exception to this rule. They, too, will consist in steering a middle course so far as our moral activities are concerned, and they will be attained by applying to the whole of our life the old Greek adage of "nothing too much" or, we might add, too little. Here we have at last the famous Aristotelian doctrine of virtue as the "happy" or "golden" mean. It should be noted, however, that the doctrine was by no means original with Aristotle. It merely formulated philosophically the supreme moral value the Greeks in general assigned to moderation or temperance, and it had already been expressed by the poets Theognis⁸⁹ and Pindar⁹⁰ in the famous phrase "nothing in excess." Moreover, the Aristotelean formulation simply carried on the Pythagorean doctrine of Limit, and it had, for that matter, been stated and applied politically by Plato in the *Statesman*.⁹¹

In the case of an animal like man, which exhibits an enormous amount of individual differences and of divergencies from type, no hard and fast rule of moderation can be laid down so far as any of his activities are concerned. There is no mathematical formula for the mean, such as Plato had demanded in the *Philebus* for his "symmetry" and "harmony." If, for example, two pounds of food are too little for an athlete and ten too much, the trainer does not prescribe the arithmetical mean of six pounds. He studies first the nature of the person with whom he is dealing, and then prescribes what is neither too much nor too little *for him*. And generally speaking, that which proves to be the golden mean in any of the functions of one individual may be an excessive or defective degree of the same function in another person. Each case has to be decided on its own merits.⁹²

These individual differences display themselves also in the sphere of moral activity. For example, spending that is liberal

⁸⁹ l. 335.

⁹⁰ Fr. 235.

⁹¹ 284 A-B. Cf. Barker, *op. cit.*, pp. 280-281.

⁹² II, 6, 1106a, 24-b7.

and virtuous in one man may be stingy in another and prodigal in a third. It all depends upon the circumstances. But in every case the virtue of the act will lie in its being the happy mean between overdoing and underdoing, *relative to the person in question*. The same is true of the passions, such as fear, confidence, anger, pity, etc., aroused in us by our give and take with the world. Here, too, the right amount to feel is not too much or too little, but enough. And "enough," as in the case of our acts, is a relative term. The passions and emotions of the virtuous man will be aroused "at the right times, with reference to the right objects, towards the right people, with the right motive and in the right way."⁹³

A further complication is introduced into the discovery of the mean by the fact that pleasure and pain are so closely bound up with all our acts and emotions. What we like we tend to do to excess; what we dislike we tend to scant. Thus the true mean is often displaced by an apparent one. Against the false perspective imparted by pain and pleasure to our judgment of the mean we must be always on our guard.⁹⁴ Pleasure and pain should be dismissed entirely from our calculations, as Helen would have been dismissed from Troy had the wise Trojan elders had their way.⁹⁵ Or, if that cannot be done, we should at least establish the mean amount of pleasure or of pain we ought to feel in the circumstances and take that only into account in estimating⁹⁶ the moral significance of any given situation.

Hitting the golden mean dictated by all these conditions is a difficult feat; no less difficult, indeed, than spotting the centre of a circle. As it takes a mathematician to solve the one problem, so it needs an expert in ethics to solve the other. "It is no easy task to be good." Hence we should not be surprised to learn that goodness, strictly speaking, "is both rare and laudable and noble."⁹⁷ The great mass of men only approximate it, and from them we can only demand a "second best" in conduct. But fortunately we can swing a little to one side or

⁹³ II, 6, 1106b, 20 ff.; cf. 7, 1108a, 30 ff.

⁹⁶ II, 6, 1106b, 18 ff.

⁹⁴ II, 9, 1109b, 1; cf. 3, 1105a, 1 ff.

⁹⁷ II, 9, 1109a, 20 ff.

⁹⁵ *Ibid.*, 1109b, 9 ff.

another of the absolute dead centre of virtue without going seriously astray. "The man . . . who deviates little from goodness is not blamed, whether he do so in the direction of the more or the less, but only the man who deviates more widely; for"—and here Aristotle shows himself a man of the world—"he does not fail to be noticed." However, the extremes never exactly balance morally, and swinging in one direction is always worse in any given case than swinging in the other. Therefore, to veer towards the less objectionable extreme is the lesser evil and counts as the better "second best." If, then, we cannot hit the point that marks complete virtue, we should at least err on the side of the preferable of the two vices between which virtue lies.⁹⁸ If, for example, we cannot be wholly courageous it is better to incline to excess rather than deficiency and be rash rather than cowardly; but, on the contrary, if we cannot be completely temperate it is better to lean towards deficiency rather than excess, and be over frigid in our pleasures rather than self-indulgent.⁹⁹

Although, as we shall soon see, the happy mean can only be determined by the exercise of reason, the extent to which it is possible to depart from the mean without passing beyond the point where the "second best" ends and blameworthy activity begins, is not easily determined by reasoning, "any more than anything else that is perceived by the senses; such things depend on particular facts, and the decision rests with perception." In other words, the exact line at which permissible shades into forbidden deviation is a matter of practical experience, and, we may also say—giving "aesthesis," the Greek word for "perception," the aesthetic connotation it has received in English—of good taste.¹⁰⁰

The doctrine of virtue as a mean, Aristotle takes care to point out, is quite consistent with the fact that some actions and passions apparently do not admit of degrees but are bad in themselves. We cannot, for example, talk of moderate murder or moderate robbery as a golden mean between too great and too small an exercise of the activity of thieving or killing.

⁹⁸ II, 9, 1109b, 1 ff.

¹⁰⁰ *Ibid.*, 1109b, 18 ff.

⁹⁹ *Ibid.*, 1109a, 1 ff.

And we cannot strike a happy balance between too much and too little shamelessness or envy or spite. Nor, Aristotle blandly assures us, is adultery any the better for being committed "with the right woman, at the right time, in the right way."¹⁰¹ These acts and these feelings "are themselves bad, and not the excesses or deficiencies of them," because they are, as they stand, already either defects or excesses. Shamelessness, for example, is too little of a feeling of shame that in moderation is good. Thieving is the expression of too great a degree of desire to acquire property¹⁰²—a desire laudable enough, if not overdone. But any attempt to find a golden mean within these emotions and acts is to ask for a moderate degree of something that is in itself an extreme degree. Obviously "there can be neither a mean of excess or deficiency, nor excess and deficiency of a mean."¹⁰³

Having thus set forth his doctrine that virtue is a moderate amount of the same activity as in excess or defect is vicious, and that vice is too much or too little of the same activity as in moderation is virtuous, Aristotle next proceeds to illustrate and support his view. This he does by running through the list of virtues and vices, sorting out those that seem to go together, and making them up in triads, in each of which a virtue is neatly sandwiched between its attendant vices of excess and defect. Some passages of the second, a great part of the third, and all of the fourth book are devoted to arranging the display. We have not, however, the time to linger at this ethical luncheon-counter, spicy comment though it is upon the moral diet that appealed to the palate of Aristotle's contemporaries and, for that matter, is still full of flavor for the modern world. We can only read the bill of fare, take a nibble at a sandwich or two, and pass on.

Courage, as we have already seen, is the right or mean amount of the same activity as in deficiency constitutes cowardice, and in excess a mad fearlessness or rashness. This triad gives rise to a long discussion of what ought and ought not to be feared, and of the tendency of other qualities like

¹⁰¹ II, 7, 1107a, 8 ff.

¹⁰³ II, 6, 1107a, 20 ff.

¹⁰² Cf. Ross, *op. cit.*, p. 196.

shame, passion, confidence, ignorance, and military knowledge and the habit of military discipline to masquerade as courage, though they lack the nobility of attitude and choice that characterizes genuine bravery. Again, we have also already noted that temperance is the right amount of avoidance of pain and of indulgence in pleasure, and that too little concern with them is the vice of insensibility, too much the vice of self-indulgence.¹⁰⁴ This statement, also, comes in for amplification. The pain factor, we are told, is comparatively unimportant so far as its moral bearings are concerned. And the vice of defect or insensibility is rare. Moreover, many pleasures must be excluded from the sphere in which the contrast between temperance and over-indulgence has an ethical significance. The delights of learning and of talking, even though the talk be trivial, and the aesthetic pleasures that accompany sight and sound and smell and some sorts of touch are also ruled out. Thus we are left with little more than the pleasures of eating and of sex to which the moral distinction between temperance and self-indulgence can apply. But here the rule of the mean holds good. "The things that being pleasant make for health and for good condition" the temperate man "will desire moderately and as he should, and also other pleasant things if they are not hindrances to these ends, or contrary to what is noble, or beyond his means." Nor when these pleasures are absent will he feel more than the amount of pain and craving proper to the circumstances.¹⁰⁵

The courage and temperance triads are grouped together by Aristotle as having to do particularly with the relations of the vegetative to the rational side of human nature. We pass now to combinations that illustrate higher functions of the soul. The stingy, liberal, prodigal sandwich is the staff and the crust of economic life. The proper making and spending of money is a nice enough problem as it is. And it is further complicated by the tendency of the extremes to cross and become confused in such a way that a man may be both stingy and prodigal at the same time. His attitude towards making money may be that of the miser—to make it at all costs and

¹⁰⁴ II, 7, 1107b, 4 ff.

¹⁰⁵ III, 10-12, 1117b, 22-1119b, 18.

from whatever sources—while at the same time he spends it in the most vulgar and extravagant way. The liberal man, however, both takes the right amounts and from the right sources, and “spends the right amounts and on the right objects, alike in small things and great, and that with pleasure.”¹⁰⁶

The virtue of magnificence links economics with aesthetics. To display it one must not only have money but taste. One must spend in the manner not only of the liberal man but of the artist as well, for only the man who combines aesthetic sensitiveness with the possession of money can “spend large sums tastefully.” Excess of magnificence is the vice of showy expenditure in the wrong circumstances and the wrong manner, or, in other words, vulgar “splurging” and ostentation. On the other hand, not to live on the scale and with all the beauty and refinement of surroundings that one’s means permit is a sign of the vice of niggardliness. The niggardly man will always be hesitating and considering “how he may spend least” and thinking “he is doing everything on a bigger scale than he ought,” and “after spending the greatest sums will spoil the beauty of the result for a trifle.”¹⁰⁷

Somewhat akin to the magnificence triad is that of pride or greatness of soul. This has to do, not with the fitness of man’s surroundings and scale of living, but rather with the propriety of his social relations to his neighbors. The proud man is self-respecting, estimates his worth at its true value, “claims what is in accordance with his merits,” and is touchy regarding his honor. He has a correct realization of the advantages of birth, wealth, and position, but he does not despise the less fortunate, provided they possess goodness and virtue. Indeed, towards those below him he is affable and unassuming, since “a lofty bearing among humble people is as vulgar as a display of strength against the weak.” But with his equals he is on his dignity. He never asks for favors for himself but is quick to confer them upon others. He is independent, frank, immune to flattery, and reserved in his expressions of admiration. He is no gossip, speaks ill of nobody, and is unmindful of wrongs done him by others, “for it is not the part of a proud

¹⁰⁶ IV, 1, 1119b, 19–1122a, 17.

¹⁰⁷ IV, 2–1122a, 17–1123a, 34.

man to have a long memory, especially for wrongs, but rather to overlook them." And he is very careful of his deportment. He never hurries, and he never gets excited in conversation and talks in a shrill voice.

Deficiency of pride and self-respect is the vice of humility and self-depreciation, which stands in the way of a man's realizing his own worth, and of his performing even the noble actions of which he is capable and reaping their proper reward. Excess of pride, on the other hand, is the vice of vanity and vainglory, which leads men to estimate themselves above their true worth. The foolish and ignorant victims of this vice, in order to maintain their fictitious value, are always undertaking more than they can perform, making a great show, and bragging about any good fortune that befalls them as if it were a tribute to their personal merits.

Such are some of the broader lines along which desirable and undesirable moral character is laid out. To our modern way of thinking they do not at first glance seem to touch essential morality very closely, but rather to attribute undue ethical weight to things that are trivialities so far as the grave business of salvation is concerned. We must remember, however, that crime is automatically excluded from Aristotle's discussion because it is an extreme of which no mean amount is possible. And we must also take into account the profound moral importance that beauty, dignity, and refinement of living had for the Greeks. No man, however "worthy" in our sense of the word, would have been called by them truly virtuous whose unpleasantness and vulgarity offended the taste of his fellow-citizens and marred the urbane and harmonious picture afforded by a really civilized community. Moreover, even from the point of view of our rougher ethics, it must be admitted that the qualities Aristotle extols or deplors not only have an immense effect upon the happiness or unhappiness of those in immediate contact with them, but also show whether the winds of a character's moral doctrine are blowing it towards good or evil in general.

The rest of Book IV deals with less important and more confused virtues, such as ambition, good temper, diplomacy,

avoidance of boasting, humor, tact, and the like—in which the relation of mean and extreme is harder to make out. Once he has disposed of these, Aristotle turns to the subject of *justice*, to which he devotes the whole of the fifth book. This partiality to justice is due to the importance the virtue assumed in Greek eyes. As the reader of Plato knows, it had not only the particular meanings that correspond more or less to our modern usage of the term, but it had also for the Hellenic mind much the same general significance as “righteousness” has for us. In this sense, it was no longer one among other virtues, with a special character of its own distinguishing it from courage or temperance, but was rather the component and essence of all moral activities. As a consequence of this double meaning the words “justice” and “injustice” had both come to be ambiguously employed, with a resulting confusion that Aristotle notes and takes upon himself to clear up. With their general significance of “righteousness” and “unrighteousness” he is not concerned. Nor is he particularly interested in the narrow, legalistic sense of obedience or disobedience to law. What he proposes to study is justice in its aspect of *fairness* and in so far as it has to do with the proportioning of wealth and civic honors.¹⁰⁸

But even so restricted, “justice” has two meanings. It may be distributive or remedial. On the one hand, it may describe the fair distribution of goods among individuals in proportion to their deserts, and, on the other, the redress of all violations of fair treatment of one individual by another, be that violation the breach of a contract voluntarily entered into by both parties, or a wrong of force or fraud suffered involuntarily by one party at another’s hands. Distributive differs also from remedial justice in that it apportions in accordance with the general character of the persons concerned, whereas the remedial type takes only the nature of the particular act into account. The office, for example, to which a man should be elected, or the allotment of public lands or possessions he should receive, ought to be proportional to his station in life or to the services he has rendered the community. But in cases where one man has

¹⁰⁸ V, 1, 1129a, 1-2, 1130b, 29.

wronged another it makes no difference "whether a good man has defrauded a bad man or a bad man a good one, nor whether it is a good or a bad man that has committed adultery; the law looks only to the distinctive character of the injury and treats the parties as equal." This difference between distributive and remedial justice Aristotle tries to express mathematically in terms of geometrical proportion *vs.* arithmetical progression.¹⁰⁹

Justice, even of these two kinds, does not, however, involve out and out reciprocity as the Pythagoreans thought. It is impossible to reward merit or to repay injustice in kind. Nevertheless, the economic and commercial life of a city—and here Aristotle makes an interesting excursion into economic theory—does rest upon the principle of reciprocity. The moment we have division of labor, we have men of different trades endeavoring to exchange their services or their products on an eye for an eye and a tooth for a tooth basis. Just what shall constitute an eye for an eye is determined by the law of supply and demand, "for if men did not need one another's goods at all, or did not need them equally, there would be either no exchange or not the same exchange." To obviate the difficulties of determining how many objects of one sort are worth how many of another, money is set up by law as a medium of exchange. Thanks to it, it becomes easy to evaluate in terms of one another objects in themselves incommensurate. For example, it would be puzzling to say off-hand how many beds one ought to pay for a house. But if a house is worth half a certain sum and a bed a tenth of it, obviously the house is worth five beds either in kind or in money value. Money, then, measures all things, makes them comparable, and thus facilitates bartering.¹¹⁰

Justice in the sense of fairness, taken as one virtue among many, is subject like the others to the rule of the mean. It differs, however, from other particular virtues in that both its extremes have the same name "injustice," and can be superimposed upon one another in the same person. Thus, the unjust man strives to have both more and less than is fair—more

¹⁰⁹ V, 2, 1130b, 30-4, 1132b, 20.

¹¹⁰ V, 5, 1132b, 21-1133b, 28.

of the world's goods and less of the unpleasant things of life than is his due.¹¹¹ What his due is, or in other words what is fair, is determined by the law and those that enforce it. Incidentally, the just judge, though the interpreter of the law, does not take more than the law allows him. If he does, he turns from a guardian of the law into a tyrant.¹¹²

Since justice is essentially a relation between people naturally subject to law, and since these are people who have an equal share in ruling and being ruled, there can be no such thing as injustice in the unqualified sense towards things that are one's own, like wife or children or slaves. Still, since one's belongings are part of oneself, no man will choose to treat them unjustly. By so doing he would be unfair to himself. This may be called household, in contradistinction to political justice.¹¹³ Political justice, however, is also not without its ups and downs. There is, to be sure, such a thing as natural justice "which has everywhere the same force and does not exist by people's thinking this or that," though even this may slowly change. But natural justice is overlaid by things that are just by convention and expediency and legal enactment. And political justice of this sort is wholly relative to time and place.¹¹⁴

Finally, the inability of justice to accommodate the universal rule or law to the particular case gives rise to the distinction between justice and equity. Equity is indeed no better than absolute justice (which would judge each case on its merits), but it is better than ordinary legal justice, and it steps in to correct the law where the latter "is defective owing to its universality." The equitable man, then, will be one who is "no stickler for his rights in the bad sense, but tends to take less than his share though he has the law on his side." In other words, he will be scrupulously fair when the law does not compel him to be so, or even when it permits him to act unfairly.¹¹⁵

So much for the external side of justice. When all is said and done, however, the justice or the injustice of an act will

¹¹¹ V, 5, 1133b, 29-1134a, 16.

¹¹² V, 6, 1134a, 17-1134b, 8.

¹¹³ *Ibid.*, 1134b, 9-18.

¹¹⁴ V, 7, 1134b, 18-1135a, 5.

¹¹⁵ V, 10, 1137a, 31-1138a, 3.

depend upon the agent's intention or will. An involuntary act is only incidentally just or unjust, whether it is involuntary through ignorance, or from lack of power, or from compulsion. An unjust act done in ignorance of its consequences occurs by accident, and the resulting injury it inflicts, being contrary to reasonable expectation, is called a misadventure. Where the consequences are foreseen but the agent is careless, we have a mistake or act of negligence. Where the agent acts with knowledge but hastily, from passion and without deliberation, the act is unjust but does not necessarily imply that the agent is of unjust disposition. If, however, it is committed from choice, not only is the act unjust but the agent also is a vicious character.¹¹⁶

This insistence upon the *intention* of the agent as the ultimate factor in deciding the justice or the injustice of an act brings us back to a point of great importance, already discussed by Aristotle at length, but so far almost entirely overlooked by us in our haste to sample the virtues and their attendant vices, and to verify the doctrine of the golden mean. We have, to be sure, been vaguely aware of the existence and nature of this other side of the moral life even before it forced itself upon our attention in the chapter on Justice. We have casually noted from time to time that deliberation and purpose play a leading part in virtuous activity. It behooves us now to retrace our steps as far as the beginning of the third book and join Aristotle there. It may already have occurred to us that deliberation, purpose, intention, choice, and the like all imply a single word, *will*. So it will not surprise us to find Aristotle engaged in studying the voluntary and involuntary aspects of activity and already involved in such difficult problems as those of freedom and moral responsibility.

Obviously, he tells us, the question of virtue and vice enters into our activities only when those activities are what we call *voluntary*. We are neither praised nor blamed nor held to moral account for acts that are involuntary on our part.¹¹⁷ What then is the earmark of a *voluntary* act? We can best answer this question by the negative expedient of determining

¹¹⁶ V, 8, 1135a, 15-1136a, 9.

¹¹⁷ III, 1, 1109b, 30 ff.

the nature of the *involuntary*. Now, an involuntary act may be defined roughly as one done under compulsion or because of ignorance.¹¹⁸ But such a definition demands further analysis. In the first place, compulsion is a somewhat vague term. Is a man who is terrified into base behavior by a threat, or who sacrifices his honor in order to save others, *compelled* to act as he does? Here we have a person, free from physical compulsion and master of his own movements, unduly influenced to choose at the moment a course of behavior he would never choose in general. In such situations we have at the best a curious mixture of the voluntary and the involuntary.¹¹⁹ So far as compulsion is concerned, then, an act, to be wholly involuntary, must be such that its moving principle is entirely outside the actor, "being a principle in which nothing is contributed by the person who is acting or feeling the passion, e.g., if he were to be carried somewhere by a wind, or by men who had him in their power."¹²⁰ Conversely, a truly voluntary act is at least one "of which the moving principle" is wholly "in the man himself."¹²¹

Pleasure and pain, however, and, generally speaking, the motives that determine a man's behavior for good or bad are not to be reckoned as external forces compelling him from the outside. They are rather part of "the moving principle in the man himself," and they cannot be invoked for the purpose of evading moral responsibility.¹²² The same is true of the passions and appetites.¹²³ Indeed, the inner drive of the organism towards the ends imposed upon it by its own nature is the most voluntary thing in the world. If we are "forced" by what seems good and pleasant to us, if the impulse to self-realization is a foreign yoke, then all acts are compulsory, and the distinction between the voluntary and the involuntary breaks down. In short, self-determination is not compulsion.¹²⁴

¹¹⁸ III, 1, 1109b, 35 ff.

¹¹⁹ *Ibid.*, 1110a, 5-19.

¹²⁰ *Ibid.*, 1110a, 35 ff.; cf. 1110b, 1 ff.

¹²¹ *Ibid.*, 1110a, 15 ff., 1111a, 22 ff.

¹²² *Ibid.*, 1110b, 9 ff.

¹²³ *Ibid.*, 1111a, 24 ff.

¹²⁴ *Ibid.*, 1110b, 9 ff.; cf. Stewart, *Notes*, I, pp. 233-234.

Turning now from compulsion to ignorance as a determinant of involuntary action, we find an even more complicated situation. In the first place, we have to make a distinction between involuntary and non-voluntary behavior. No deed that is committed by reason of ignorance is willed in the moral sense of the word. It is not a voluntary act. But it is not an *involuntary* act or, in other words, an act that is *against* our will, unless we feel pain and repentance when we realize what we have done.¹²⁵ Again, acting *in* ignorance is not the same as acting *from* ignorance. For instance, what a man does when drunk or in a passion is done *in* ignorance, for the agent is temporarily blinded to the nature and consequences of his deed. But it is not done *from* ignorance, since not ignorance but rage or intoxication is the cause of the agent's acting as he does.

This distinction is important because acts done *in* ignorance are not necessarily involuntary and pardonable, whereas acts done *from* ignorance generally are. Thus all evil is committed *in* ignorance, seeing that every evil-doer, being blind to what is best for him, "is ignorant of what he ought to do and what he ought to abstain from." Furthermore, the wicked man may be said even to act *from* ignorance of general moral principle. But such ignorance is no excuse, for he knows well enough the particular circumstances and consequences of his particular evil deed, and therefore commits it *voluntarily*. It is only acts resulting *from* ignorance of the *particular* circumstances and objects with which they are concerned that can be called *involuntary*, and can be pitied and pardoned rather than punished. These circumstances, to be sure, are so numerous that no man can be expected to be ignorant of them all. But ignorance of the important points, if coupled with pain and repentance on discovering the mistake, is sufficient to mark an act as involuntary and to exculpate the agent.¹²⁶

Just, then, as our consideration of the nature of compulsion led us to define voluntary action as "that of which the moving principle is in the agent himself," so our discussion of ignorance suggests that we add to our description the clause "he being

¹²⁵ III, 1, 1110b, 18-1111a, 21.

¹²⁶ *Ibid.*, 1110b, 18-1111a, 21.

aware of the particular circumstances of the action.”¹²⁷ But, now, a moving principle that, in the face of a particular set of circumstances, determines itself to this or that course of action feels what we call *preference* and exercises what we call *choice*. This factor plays an important part in virtuous activity, since action that embodies the golden mean must be expressly intended or chosen for that purpose if it is to have moral value.¹²⁸ To stumble upon the mean by chance or with something else in mind, or to have it forced upon us by circumstances over which we have no control, is in no wise to our credit.

We must, however, be on our guard against identifying with voluntary action in general the selective activity of having preferences and expressing them in choices. Preferential choice is, to be sure, a voluntary thing, but it is not so wide in its scope as voluntary action. The inconsequential behavior of animals and children, for example, and, for that matter, anything done by adults on the spur of the moment may be voluntary enough, but such action cannot possibly be said to exhibit intention and choice. Nor can the selective activity of choice be a form of appetite or of “temper,” since appetite is motivated by pleasure and pain—which “choice” is not—and since both desire and bursts of passion are characteristic of irrational creatures and of incontinent men, who only too evidently do not pick and choose their acts.¹²⁹

Again, the preferential aspect of choosing cannot be identified with mere wishing. We may wish for the impossible, as, for example, to be immortal, or for things that our own efforts cannot bring to pass. But preference, properly speaking, is concerned only with the possible, and at that with things we feel that we personally can accomplish. Moreover, even thus narrowed down, it deals only with means. We do not select the ends for which we work; they are given us by our nature and are what we naturally wish for. Our picking and choosing is done rather among the different possible ways of attaining these ends. Finally, preferring is more than holding an opinion. Opinion, like wishing but unlike selection, may deal with the

¹²⁷ III, 1, 1111a, 22 ff.

¹²⁸ III, 2, 1111b, 30 ff.

¹²⁹ *Ibid.*, 1111b, 4–19.

impossible or with the necessary and the unavoidable. Nor does it get us anywhere or have any influence upon our character, as our preferences do. Opinion is a matter of truth or error, preference of right or wrong. And sound opinions are compatible with vicious choices.¹³⁰

What, then, is the distinguishing mark of preference and choice? The answer is simple. Activity, to be called selective, must be the outcome of reasoning and deliberation. Hence choosing is not identical with volition or appetite or passion, or with wishing, or with holding one opinion rather than another. For whatever our opinions or wishes, or our appetites or passions may be, we do not deliberate about the order of nature or mathematical truths or chance events, but only about human affairs, and, even with respect to them, only about such things as concern us immediately and can be changed by our efforts. Nor do we deliberate about ends, but about means, and about these only when the situation is obscure or its outcome uncertain. In that case we investigate, and analyze, and even turn to others for advice. Confronted with the impossible or the inevitable, our investigation and our effort cease. But in dealing with the possible or the avoidable our deliberation comes to a head in a definite desire, and we act in a manner calculated to satisfy it. An act of this sort is a *choice*. Choice, then, we may finally define as "deliberate desire of things in our power."¹³¹

The confinement of virtue to such voluntary activity as is deliberately chosen by us and as deals with things in our power has interesting results. In the first place, it reveals the basis of Aristotle's contention that virtue is not the good, and of his objection to the Cynic doctrine that morality is an end in itself, and that virtue is to be practiced for its own sake and regarded as its own reward. The fundamental weakness of Antisthenes' teaching is now seen to lie in a hopeless confusion of ways and means with ends. The reason that virtue is not the good is that it is not an end but a means. "The exercise of the virtues," Aristotle explicitly states, "is concerned with means,"¹³²

¹³⁰ III, 2, 1111b, 20-1112a, 13.

¹³² III, 5, 1113b, 5.

¹³¹ *Ibid.*, 1112a, 13-5, 3, 1113a, 11.

and with means alone. But means are not desirable for their own sake. In other words, virtuous behavior has no intrinsic goodness. It is merely a device, valueless apart from the ends it subserves, that an organism constituted and situated like ours must employ in order to attain its good and be happy.

We may also put virtue in its proper place, if we approach the question from the point of view of the ends that correspond to our wishes and determine what our good shall be. Obviously these ends and wishes transcend altogether the sphere of virtue. We do not hold ourselves responsible for them, or blame or praise ourselves for having them. We do not choose them. It is not in our power to alter them. We can, for example, no more help wishing to be healthy and happy than we can help being men.¹³³ Our wishes and the good they constitute are natural facts inseparable from the kind of body, passions and parts, interests and instincts with which the human animal comes endowed. There is, then, no virtue and no vice in our being what we are and wishing what we do. Virtue and vice, choice and responsibility, moral judgments of right and wrong, pertain not to the dictates of our nature but only to the method we employ in giving effect to them. And they pertain to the method simply because that seems to be something within our choice and power. Though there can be no question of what our good shall be, whether and how it shall be obtained appears to be an open question for each one of us. For it is within our power, apparently, to decide whether to act or not to act and whether to act well or ill.¹³⁴

But this is by no means the whole story. We are not done with virtue yet. Two difficulties present themselves, one of which is formidable. Taking the lesser first, we may note that the distinction between *wish* as directed towards *ends*, which are *good*, and *choice* as concerned with *means*, which are *virtuous*, bids fair to land us in a dilemma. It replunges us into the old dispute between Plato and Protagoras with regard to the nature of the good. We must ask ourselves whether our will is directed towards a real, objective good, as Plato held, or merely towards what *seems* good, as the Sophists taught. If we side with Plato

¹³³ III, 2, 1111b, 26 ff.

¹³⁴ III, 5, 1113b, 3 ff.

and make the object of wish a good in itself, what are we to say of the good wished by the ill-intentioned man? The object of his will, surely, is not *the* good. Hence, we are forced to say either that his wish is not a wish, since it is not for *the* good, or else that what merely *appears* good is the end at which the will is really aimed.¹³⁵

It looks, then, as if Protagoras were right. But if he is, we must take the consequences. "Those who say the apparent good is the object of wish must admit that there is no natural object of wish, but only what seems good to each man." And not only different, but even contrary things appear good to different people.¹³⁶ The effect of such a doctrine of virtue is plain, Aristotle might have added. If the wish of the individual is the final test of goodness, then, whatever his ends may be, the means he adopts to attain them will be virtuous. This is moral anarchy pure and simple.

Aristotle, however, declines to accept either the Platonic or the Protagorean extreme, and sets to work to rehabilitate a "natural object of wish" that shall be neither absolute nor yet purely relative. To this end he makes his old appeal to the healthy, normal man as representative of human nature in general. Each man, indeed, wishes what *seems* good to him. So far Protagoras is right. But what appears good to the good man sets a standard for judging the wishes and the seeming goods of all men, just as it is the way food appears to the taste, and the impression it makes upon the digestion, of the well rather than the ill man that determines whether it is really wholesome or only apparently so. Although, then, all objects of wish appear to be good to those who wish them, they are not all on a par morally and equally authoritative. "Each state of character has its own ideas of the noble and the pleasant," . . . but "the good man judges each class of things rightly, and in each the truth appears to him." Hence he is "as it were the norm and measure of them," and what he wishes constitutes a true, as opposed to an apparent, object of wish in the moral sense of the word. The root of moral error and evil, Aristotle points out, lies in the false perspective introduced into our

¹³⁵ III, 4, 1113a, 15 ff.

¹³⁶ *Ibid.*, 1113a, 20 ff.

wishing by pleasure and pain. "In most things," he says, "the error seems to be due to pleasure"; for although "it appears a good when it is not," . . . we continually "choose the pleasant as a good, and avoid pain as an evil."¹³⁷

The case of the apparent *vs.* the real good may, then, be regarded as satisfactorily compromised, though the question how to know the good man from the bad man is not finally settled. But before carrying this point to a final court of appeal, we have a second and more important matter pending, suggested by the distinction between *wish* and *choice*. We have talked of our wishes as natural endowments which it is not in our power to dodge or change. As we have seen, we can no more help wanting to be healthy and happy than we can help being human. Our ends are shaped for us along with our natures. But the choices we make with respect to the means for putting these ends into effect, and the acts with which we hew them rough or smooth, for better or for worse, are in our power, Aristotle repeatedly maintains. They are not made or done under outer compulsion. We are responsible and can be held to account for them, and we can be justly punished or rewarded for them according as they are bad or good. At this point, however, a suspicion arises. Are we so sure after all that our choices are free? May they not be forced upon us by factors we cannot control? Perhaps we are clay in the hands of circumstance. Perhaps, in the process of deliberation, with its weighing of pros and cons and its eventual settling of the balance to a decision, we merely hold the scales, unable really to exert an ounce of pressure on either pan, while the wavering of opposed ideas and motives gradually subsides to an equilibrium predetermined by their comparative gravity. In that case, what of moral responsibility, praise and blame, and the justification of reward and punishment?

This question is foreseen by Aristotle and his reply is ready. In meeting the issue and in defending the freedom of the will, he does not, however, proceed to the length of maintaining, like some later metaphysicians, that if we are to be really free and

¹³⁷ III, 4, 1113a, 23 ff.; cf. Stewart, *op. cit.*, I, pp. 269 ff.

responsible it must be in our power to act, not only uncompelled by external circumstances, but undetermined, even, by ourselves and irrespective of the kind of people we are. He apparently believes, to be sure, that a freedom of this sort exists in Nature. In the activity of any being tainted with Potentiality and Matter there can be no telling which way the cat will jump. No matter, then, how trustworthy we may look, and how predictable our behavior may seem, the alternative of not acting at all, or of not acting as might reasonably be expected, is always open to us, metaphysically speaking, and may give rise to behavior that, being without antecedent causes, can be traced to nothing and, absolutely speaking, could not have been foreseen.¹³⁸

In the *Ethics*, however, freedom of this sort plays almost no part. There is, indeed, as we shall see in a moment, one passage in which Aristotle seems to approach it. But he does not pursue the subject or develop its possible moral implications. In order to establish moral responsibility it is sufficient in his eyes that we do not seem to ourselves wholly passive beings, merely registering and transmitting the impact of external forces, but feel as if we were "moving principles" as well, the real sources and causes of much that we do. Where our activities are such that they have the "feel" of proceeding from and expressing ourselves, we are not acting under compulsion but freely. And for any deed that we own up to as ours we are morally responsible. In a word, for Aristotle the question whether or not it is in our power to act is answered in each individual case by simply determining whether at the moment we feel ourselves or external circumstances to be the causes of the act in question. The answer does not involve any metaphysical delving into what the "we" in us really is, or further querying whether this "we" could, being what it is and confronted with the situation in question, have caused other than the effects it did.

Taking then "in our power" to mean "of which the moving principles are in us," it is plain that our choices are in our power, or, in other words, originate in and express ourselves,

¹³⁸ *De Int.*, 9, 18b, 31-19a, 21.

and hence that virtue and vice, which have to do with choosing the means to the end, are also in our power. In this respect, Aristotle points out, virtue and vice stand and fall together. We are as much the "moving principle" of our evil acts as we are of our good.¹³⁹ We cannot hold, as Socrates did, that whereas virtue and happiness are voluntary, every man who does evil acts from ignorance of what is to his best interests and hence against a will, which, when left to itself, is always for the good. The Socratic conclusion that "no one is voluntarily wicked" is wrong. "Wickedness is voluntary."¹⁴⁰ The attitude of the law and of society, the use of punishment as a deterrent, the employment of devices to encourage virtue, all rest upon the assumption that our deeds are our own doing and not the effects of outside causes.¹⁴¹

Moreover, so far as ignorance is concerned, there is, as we have already seen, much ignorance of which the individual himself is the cause and for which he is responsible. For instance, a man is responsible for what he does in the ignorance induced by drunkenness, since he does not get drunk under external compulsion but of himself. It lies with him, and with him alone, whether to get drunk or not. The same is true of the ignorance that springs from carelessness, as for example ignorance of the law. Ignorance of this sort is not forced upon the individual. Nothing except himself prevents his being careful. Therefore he has "the power of taking care" and is alone responsible for not exercising it.¹⁴²

But, it may be argued, and here Aristotle reaches the crucial question, "perhaps a man is the kind of man not to take care."¹⁴³ Given his character, he must act as he does. Is he, then, responsible for being the kind of man he is? Is he not, like the man acting in ignorance or under compulsion, more to be pitied than blamed? To this difficulty Aristotle has his answer ready. It is true, he admits, that once a character is formed it cannot be changed and must express itself as it does. Nevertheless, that character, be it good or bad, is still the sole "mov-

¹³⁹ III, 5, 1113b, 3-14.

¹⁴⁰ *Ibid.*, 1113b, 14-21.

¹⁴¹ *Ibid.*, 1113b, 22-30.

¹⁴² *Ibid.*, 1113b, 30-1114a, 3.

¹⁴³ *Ibid.*, 1114a, 3-4.

ing principle" of its self-expression in action. The righteous man, with whom virtue has become a fixed habit, does not feel that his good behavior is for that reason compelled and involuntary. He wants to be good, and in being good he feels free. So, too, the hardened criminal is vicious voluntarily, for "it is irrational to suppose that a man who acts unjustly does not wish to be unjust, or a man who acts self-indulgently to be self-indulgent." Nay more, once the character is set, the wish to reform is unavailing. A man's nature will go on expressing itself in acts for which he may be sorry, but of which he will be bound none the less to admit himself "the moving principle," and for which he will therefore be responsible. Wherever, then, character comes from, however it is formed, and whatever it turns out to be, it is still the free cause of its actions and cannot shift the reason for its behavior to anything outside itself.¹⁴⁴

Moreover, characters do not come starched and folded. They are pliable and capable in the beginning of being shaped in one way or another. Habits are slowly formed by the repetition of individual acts. "It is activities exercised on particular objects that make the corresponding character." Hence the individual is clearly responsible for becoming and being what he is, since "not to know that it is from the exercise of activities on particular objects that states of character are produced is the mark of a thoroughly senseless person."¹⁴⁵ The man, then, who becomes a drunkard or a cheat is himself responsible for his downfall. By a succession of particular acts of a certain sort, to which he is not forced by outer compulsion, and which he does not commit in ignorance of their consequences, he builds up the kind of general character of which these acts become the habitual, but none the less unforced and therefore free, expression.¹⁴⁶ He is in the same boat as the patient who might have obeyed his doctor's orders and kept his health, or who might have retained his figure by exercising, but now finds it too late. Once it was open to the patient not to be ill or fat, but now he has thrown away his chance. The

¹⁴⁴ III, 5, 1114a, 11-21.

¹⁴⁵ *Ibid.*, 1114a, 4-10.

¹⁴⁶ *Ibid.*, 1114b, 30-1115a, 3.

die is cast and cannot be recovered. Still, throwing away his chance was his own act, and was in his power, since "the moving principle" that did the throwing was in him. We do not *pity* such a man as we would one born ugly or blind or with some other bodily vice. We *blame* him on the ground that he was not determined by anything outside himself, or, in other words, was not forced to neglect his health and his appearance and to let himself go as he did.¹⁴⁷ In the same way we blame men of vicious character as "themselves by their slack lives responsible for becoming men of that kind."¹⁴⁸ For "it was open to them at the beginning not to become men of this kind, and so they have become unjust and self-indulgent voluntarily; but now that they have become so it is not possible for them not to be so."¹⁴⁹

But, we may still persist in asking, was it really *ever* open to the wicked to be other than wicked? Is the evil man really like the man who has deliberately drunk himself blind? Is he not rather like the man born blind? Does he not come with a naturally defective moral eye which constitutionally mistakes an apparent for the real good and makes him morally color-blind? Aristotle's answer to these questions is negative. It may be that "the end appears to each man in a form answering to his character," but in so far as he is "somehow responsible for his state of mind, he will also be himself somehow responsible for the appearance."¹⁵⁰ In other words, we can be taken to task for holding the ideals we do. The vicious man cannot beg off on the ground that he did what seemed to him good and that he ought not to be blamed for acting according to his lights. He had no business to have those lights. He, and nothing outside himself, is the cause of his defective vision and his wrong standards, which are the fruit, as his character is the flower, of repeated evil acts individually subject to his control. If this were not the case, we should be obliged to say that neither was the good man responsible for his virtuous character and high ideals and deserving of credit for them. For "to both men alike, good and bad, the end appears and is fixed by Na-

¹⁴⁷ III, 5, 1114a, 10-31.

¹⁴⁸ *Ibid.*, 1114a, 4-6.

¹⁴⁹ *Ibid.*, 1114a, 19-21.

¹⁵⁰ *Ibid.*, 1114a, 31-1114b, 3.

ture, or however it may be, and it is by referring everything else to this that men do whatever they do.”¹⁵¹

Indeed, suppose even that there was no “however it may be,” and the end really was fixed once and for all by Nature. Suppose that a man came naturally clothed with ready-made low ideals which could not be refitted and for which we could not hold him responsible. Even in that case, Aristotle feels, we could still hold him to account for acting in accordance with them. For, even if he could not help his ideals, it would still rest with him whether to adopt or not to adopt the means for realizing them, just as being born with high ideals would not deprive the good man of the power to act unrighteously. Once more, to deny freedom to the sinner is to deny it to the saint. If vice is involuntary, so is virtue. From every angle the Socratic teaching that vice is involuntary is untenable.¹⁵²

It must be obvious that in developing this final argument for the voluntary nature of vice Aristotle begins to contradict himself and veer towards a new concept of freedom. Roughly speaking, something akin to what we should to-day call the freedom of self-determination underlies his theory of a give and take between the particular act and the character, in the course of which the character, as it is slowly formed by the repetition of self-originated acts, little by little colors the inner source of those acts, till in the end they must always express the disposition they have helped build up. But the statement that our “moving principles” may move and make their choices undetermined by their own natures and ideals, no matter how fully formed, introduces a new twist into the discussion. It looks as if moral accountability now implied to him more than a feeling of freedom from outside interference and control, and more than a sense of the origination, ownership, and direction of our behavior by our own characters, and involved the notion that we were never wholly committed by our natures to action of a given sort. Confronted with a choice we may, he seems to think, act independently not only of external forces but of our own characters. We may defy and disobey even *ourselves*.

If anything of this sort were really in Aristotle's mind, he

¹⁵¹ III, 5, 1114b, 6-15.

¹⁵² *Ibid.*, 1114b, 16-25.

might be accused of veering for a moment towards the concept of the so-called "free will of indifference"—or view that, however much we may be predisposed by our inclinations and characters to one course of action rather than another, this predisposition does not absolutely predetermine what we are about to decide and do. Up to the last instant, according to this theory, we remain suspended in a state of metaphysical "indifference" between alternatives, and even then the weight of what we have become and what we are is insufficient to tip the scale. Something quite new must be thrown into the pan, originating, to be sure, within us, yet originating undetermined by anything that we were prior to the throwing. Of all metaphysical feats, not excluding creation by fiat, this is most like a magician's trick, and it is not surprising that speculation as to what does the throwing in these circumstances, and how the throwing is done, should have created one of the most difficult of modern metaphysical puzzles.

It is only fair to say, however, that the free will of indifference was not a problem entertained or even suggested by Greek religion or Greek ethics. It was largely a by-product of Christian theology, and but for Christianity might never have plagued philosophy. Even at Aristotle's nearest approach to the question we may doubt whether it ever occurred to him in its modern form. Had he been confronted with the possible implications of his statement, he might either have recoiled from attributing to it any such significance, or, as we have already noted, he might have seen in freedom of this sort just one more symptom, along with chance, contingency, and the thwarting of purpose by intractable matter, of the presence of Potentiality everywhere in the world. Falling short, as our souls do, of pure actuality, our "moving principles," he might have said, cannot be expected to be free from the possibility of not moving as well as moving, and of not moving entirely in accordance with their natures and ends when they do move. Liberty like this, however, carries us beyond both the sphere and the necessities of moral action into the realm of metaphysics. But there we look in vain for any discussion of it on his part, and hence are without any clue as to exactly how he

would have worked it in with contingency, chance, spontaneity, and the other traces of the cloven hoof of the Potential. We may, therefore, content ourselves with echoing the remarks of the critics that Aristotle's treatment of free will is inconclusive, judged by modern standards and demands, but quite sufficient according to his own.¹⁵³ Let us drop the subject for good and all, and turn back to the main object of our research which is still unattained. Since virtue and vice have proved to be equally voluntary, our digression into free will has not enabled us to answer the still pressing question—how to tell the one from the other.

We are, however, on the last lap of our race. As we enter upon it let us review briefly in our minds the ground we have already covered. "Virtue," we have read as we ran, "is a state of character concerned with choice, lying in a mean, i.e., the mean relative to us."¹⁵⁴ All these aspects have been gone over in some detail. We have studied the complicated nature of the mean that is golden for human beings, and seen how difficult it is to spot and hold the middle course. And the subjective problems connected with deliberation and choice are still fresh in our memories. But we have not yet set up a standard for distinguishing the mean that is really golden from that which merely glitters, and for differentiating good choices from bad ones.

If we turn back to the definition of virtue just quoted, we shall find that Aristotle appends to it a clause in which the final secret is revealed. The mean that is golden relatively to us, and that is selected by right choice, "is determined by a rational principle, and by that principle by which the man of practical wisdom would determine it." Reason, to be sure, cannot alter or criticize the constitution of human nature. It cannot say that it is irrational for us to have the character, the end, and the good with which we come outfitted by virtue of being men. But it is the last court of appeal in determining how much is too great, and how much too small, an

¹⁵³ For Aristotle on the freedom of the will *cf.* Ross, *op. cit.*, pp. 200 ff.; Zeller, *op. cit.*, I, pp. 230, 363, II, 114–118, 129; Stewart, *op. cit.*, I, pp. 222–229, 272–281.

¹⁵⁴ I, 6, 1107a, 1–2.

amount of functioning to bring a given nature happiness, and in deciding upon the means best calculated to attain that golden mean. We must, then, have a look at the so-called intellectual virtues, which we have so far ignored, for there it is that the foundation of the moral virtues lies. Indeed, morality is essentially the application of reason to human conduct—the determination by means of reason of the right rule of living.¹⁵⁵

Now the intellect, which grasps rational principles, is of two sorts and is occupied with two different kinds of objects. On the one hand, we have the contemplation of what is fixed and invariable—an activity that we may call scientific; on the other, the use of our brains with respect to the variable and passing occurrences of ordinary, every-day life—an activity that we may call deliberative and calculative. Calculative reasoning differs from contemplative in that it is not a pure spectator but an actor. Allied as it is with desire, it aims at an end and is a moving force. It desires and devises our happiness. Whereas, then, contemplative activity merely accepts or rejects things as true or false, calculative activity pursues or avoids things as good or bad. “What affirmation and negation are in thinking, pursuit and avoidance are in desire.”¹⁵⁶

There are three states or conditions of contemplative mental activity—scientific knowledge, intuitive reason, and philosophic wisdom. Scientific knowledge concerns itself with demonstrating what must follow necessarily, universally, and to all eternity from first principles. But these principles, as we have already seen in the *Logic* cannot be themselves demonstrated. They have to be grasped by reason in an act of immediate intuition.¹⁵⁷ When we cover the whole ground of what is necessary, universal, and eternal by combining intuitive knowledge of first principles with demonstrative knowledge of what necessarily follows from them, we have philosophic wisdom.¹⁵⁸

The calculative activity of reason, which is concerned with the variable and the contingent, is twofold. When we use our

¹⁵⁵ Cf. VI, 1, 1138b, 18 ff.

¹⁵⁸ VI, 7, 1141a, 9–1141b, 8.

¹⁵⁶ *Ibid.*, 1138b, 25–1139b, 4.

¹⁵⁷ VI, 3, 1139b, 13–35; 6, 1140b, 31–1141a, 8.

intelligence in “contriving and considering how something may come into being,” and plan how to *make* something, we display *art*. Every art, whatever it may be, boils down to “a state of capacity to make, involving a true course of reasoning.” Conversely, all lack of artistry betrays at bottom a false course of reasoning.¹⁵⁹ But now, we plan not merely how to *make*, but how to *do* or behave with respect to an end or good of some sort. When our contriving is directed towards *behavior* we are said to exhibit *practical wisdom*. That there is a real distinction between these two aspects, and that morality is not an art, is obvious from the fact that whereas the artist can produce bad works and still be called an artist, a man cannot produce bad “doings” and remain moral or practically wise. Moreover, while it is to the artist’s credit if he knows that his work is poor, it is to a man’s discredit to do wrong with his eyes open. Ignorance condemns in the one case, excuses in the other.¹⁶⁰

Taking up *practical wisdom* we note in the first place that it must be distinguished from mere ingenuity in dealing with details—such as how to be healthy or strong. It is rather reasoning “about what sort of things conduce to the good life in general.”¹⁶¹ Again, *practical wisdom* is to be distinguished from *political wisdom*, which deliberates about the good of the state, and from *legislative wisdom*, which plans good individual laws, and from the science of *household management*. These, indeed, may be akin to practical wisdom, or even forms and applications of it. But the term itself is reserved to “that form of it which is concerned with a man himself—with the individual,” and with what the good life for the individual is.¹⁶² Still, it is difficult to disentangle these forms from one another, since the good of the individual perhaps “cannot exist without household management or without a form of government.”¹⁶³ Generally speaking, however, “practical wisdom” has a moral rather than a political or economic connotation.

Now, if we turn back to the contemplative activities of the mind, we shall find that they are excellent and “virtuous” in

¹⁵⁹ VI, 4, 1140a, 1–23.

¹⁶⁰ VI, 5, 1140a, 24–1114b, 30.

¹⁶¹ *Ibid.*

¹⁶² VI, 8, 1141b, 23–1142a, 11.

¹⁶³ *Ibid.*

proportion as they apprehend the truth. Being true, then, is the "virtue" of scientific knowledge, intuitive reasoning, and philosophic wisdom; being untrue is their "vice." But "being true" is also the "virtue" of calculative reasoning, for good choice depends upon right desire, and the rightness of desire depends in its turn upon the real desirability, or, in other words, the *true* goodness of its object. Desire, to be good, "must pursue just what reasoning asserts."¹⁶⁴ This holds for the two forms of calculative wisdom, art and morality. Art as we have seen is *good* art in so far as its productions involve and reflect a *true* course of reasoning. And morality or practical wisdom consists in an ability to keep one's doings in accordance with truth and reason "with regard to the things that are good or bad for man." So, too, the goodness or excellence of such kinsfolk of practical wisdom and aids to moral conduct as calculation, understanding, and judgment lies in their obedience to logic and their constant contact with the truth.¹⁶⁵ We may, then, regard being true as the excellence or virtue of both parts of the intellect, contemplative and practical.¹⁶⁶

In short, a sound ethics demands the constant exercise of reason in both theory and practice. Only reason, reflecting upon the make-up of the human organism, can formulate the good corresponding to that organism's needs and desires. And only reason can devise the best means for fulfilling them and for thus bringing the organism the happiness appropriate to its nature.

Since, however, practical wisdom deals with a nature that is variable and with a good that is relative, ethics is not susceptible, as we already know, of a scientific or metaphysical treatment. Intuitive reasoning, scientific demonstration, and philosophic insight have in one sense nothing to do with the subject. They do not even pretend to study the means to happiness.¹⁶⁷ However, in one respect practical wisdom exhibits an intuitive character. A man of sound judgment and ripe understanding will intuitively spot what ought to be done in a particular case without having to go through a preliminary process of argu-

¹⁶⁴ VI, 2, 1139a, 21 ff.

¹⁶⁵ VI, 9, 1142a, 31-11, 143a, 24.

¹⁶⁶ VI, 1, 1139a, 6 ff.

¹⁶⁷ VI, 8, 1142a, 23 ff.

ing the matter out with himself. In other words, he will intuit or perceive the particular moral significance of a given situation with the same immediacy as the intuitions of contemplative reason grasp, say, the principles of mathematics.¹⁶⁸

Furthermore, there is a sense in which intuitive reasoning, scientific demonstration, and philosophic insight play a leading rôle in Aristotle's ethics. Though they may not indicate the nature of the means, which are relative to the particular human situation from moment to moment, they do indicate, in Aristotle's judgment, the nature of the end. The best life for man, as we saw in the *Metaphysics* and noted again in Book X of the *Ethics*, is the contemplative life. His highest activity lies in the vision of truth, and the most virtuous life consists in so arranging and subordinating the other operations of his nature that this activity may have the freest play and the completest possible expression. Philosophic wisdom, then, being the most excellent and "virtuous" state that contemplation can attain, is in itself happiness, and is therefore self-justified, quite apart from any "useful" consequences that may or may not flow from it. In the same way, the mere mental process of moralizing "about life is interesting in and for itself, whether or no it gives rise to virtuous deeds." There is a contemplative aspect to practical wisdom which would still make it valuable even if it were without practical applications. Philosophizing and moralizing, then, being the excellences or "virtues of the two parts of the soul respectively . . . must be worthy of choice . . . even if neither of them produce anything." That is Aristotle's first retort to those who would object that pure science and philosophical speculation are without utility because they "contemplate none of the things that will make a man happy" or, as we should say to-day, do not go in for economic, political, and moral reform.¹⁶⁹

Moreover, Aristotle continues, both philosophic and practical wisdom really are productive. For surely anything in which man finds happiness, as he does in looking on at the spectacle of the universe and of human life, is productive in the highest sense of the word. Not only that, but wisdom about

¹⁶⁸ VI, 11, 1143a, 25 ff.

¹⁶⁹ VI, 12, 1143b, 18-1144a, 2.

human affairs is also of practical use since moral theory is an efficient aid to moral conduct. It is all very well to say that the righteous man will act in accordance with his nature whether he knows his ethics or not, and that practical wisdom will improve neither a good nor a bad character. Nevertheless, the fact remains that practical wisdom helps the good man to take the right means to hit the right mark (the golden mean) at which his virtue is aimed. For that matter, it is impossible for a clever and able man to be truly good without exhibiting practical wisdom, seeing that morality is itself cleverness and ability displayed in the right way and direction; that is, as the good man displays them. Morality is syllogistic or logical thinking starting from the assumption that such and such is for the best—an assumption that only the good man can validly make. As well say the syllogism is of no use to clear thinking, when clear thinking *is* thinking syllogistically. Evidently it is impossible to be really good—that is, to hit the golden mean by the right means at the right time—without being practically wise.¹⁷⁰

The relation of practical wisdom to cleverness in general is paralleled by that of the character we develop to the character with which we are born. We come into the world endowed with moral qualities in embryo. But, as in the case of general intelligence or cleverness, these native qualities may go to the bad unless they are educated in the right way. And their crystallization in a virtuous character is tantamount to displaying in the right way cleverness regarding problems of conduct, or in other words, to showing practical wisdom in what we do. Socrates, then, though he was wrong in his attempt to reduce all the different moral virtues to knowledge of the good, was right in his perception that they all implied practical wisdom and indeed involved its actual presence. Bravery and self-control are not knowledge, but without the aid of knowledge of the good they cannot be had in the precise amount that makes them virtues rather than vices such as rashness, or cowardice, or insensibility. So, too, Socrates was both right and wrong about virtue's being one. Our innate qualities or natural vir-

¹⁷⁰ VI, 12, 1144a, 6-37, 1144b, 30-32.

tues certainly are not one. Some of them may be given, others withheld, at birth. At the same time, to possess practical wisdom at all is to possess it with respect to all natural qualities and virtues. The "moral" attitude is the same, whether it be taken towards bravery or self-control or what not. In every case it involves a perception of the precise amount, neither more nor less, of natural virtue it takes to make a moral virtue. In the sense, then, that all native qualities become moral virtues by the agency of one and the same knowledge of the good and have one and the same formula, i.e., the golden mean, virtue is one.¹⁷¹

But we might still expect Socrates to be right in his contention that knowledge of the good should be followed automatically by virtuous action. If we know the end, and the means to the end, both of which, being good, are desirable, then our "moving principles," unless interfered with from the outside, ought to move accordingly. Still "this view plainly contradicts the observed facts."¹⁷² Voluntarily and with our eyes open we are constantly acting against our better judgment, in defiance of the sense of certainty that accompanies not only actual knowledge but any sincere opinion.¹⁷³ What, then, lies at the bottom of this deflection of moral conduct from the obviously good and moral course?

The answer to this question Aristotle finds in what he calls "incontinence," to a discussion of which Book VII is devoted. This is not itself vice. Vice is its result. Nor is it a sub-human state like brutishness. Animals, like Gods, are neither virtuous nor vicious, but live without morality. Furthermore their acts are not subject to rules.¹⁷⁴ But continence and incontinence have a moral significance and exhibit a rule of action. The incontinent man is a man who *as a rule* lets his passions overcome his reason. And continence is considered akin to virtues like endurance and temperance, incontinence to vices like softness and self-indulgence. Continence may be defined as the habit of refusing on rational grounds to follow an appetite we know to be bad, incontinence as the habitual refusal, grounded

¹⁷¹ VI, 13, 1144b, 1-1145a, 6.

¹⁷² VII, 2, 1145b, 22-30.

¹⁷³ *Ibid.*, 1146b, 24-27.

¹⁷⁴ VII, 1, 1145a, 15-27.

in appetite and passion, to follow knowledge and opinion of whose goodness we are certain.¹⁷⁵

Our question now becomes, by what machinery do appetite and passion manage to interfere with and block the control of action by reason? Ignorance—or, at any rate, ignorance as Socrates understood the word—is ruled out of the game. For incontinence is a *deliberate* flouting of the *knowledge* of good and evil. Still, it is clear that the knowing process must be distorted in some way, since if our moral reasoning were absolutely cogent we should have to act according to its conclusion. If I, for example, know that “everything sweet ought to be tasted,” and that “this is sweet,” then action must follow on affirmation, and I must taste the object in question unless I am prevented by something outside myself.¹⁷⁶ Where, then, and how does the distortion occur?

The answer Aristotle finds in the distinction between actual and potential knowledge. I can have knowledge without exercising it. I can, for instance, actually know that dry food is good for every man, that I am a man, and that food of a certain sort is dry, but I may not be certain at the moment that the food set before me is of the sort in question. In that case, although my syllogism is correct and my thinking clear, my action may not be in accordance with it.¹⁷⁷ But incontinence goes far deeper than this. Since it is action of a general sort in accordance with a rule, it, too, must have a logic and a syllogism of its own. And the victory of the dictates of passion over those of reason will not be irrational. It will arise from the fact that the *arguments* put up by appetite are stronger. Greek will be meeting Greek, syllogism will be clashing with syllogism. And the flaw will be a logical flaw.

Take once more the question of tasting a sweet food. Suppose I know on rational grounds that nothing of a certain sort should be tasted, and on perceptual and passionate grounds that everything of this sort is sweet and therefore pleasant. Here I have two equally strong major premises. Suppose furthermore I actually know that the thing before me belongs to

¹⁷⁵ VII, 1, 1145b, 8–21.

¹⁷⁷ *Ibid.*, 1146b, 35–1147a, 10.

¹⁷⁶ VII, 3, 1147b, 25–32.

the sweet and pleasant class, but have only potential knowledge, or, in other words, am uncertain, whether it is the sort of thing I ought to taste. Here I have two minor premises, but one of them is strong, the other weak. On logical grounds alone the syllogism with the two strong premises will lead to the affirmative conclusion and to action in accordance with it. I shall taste the thing in question. But it will be noted that what makes the minor premise practically strong or weak is the element of desire. For, if I did not *want* to taste the thing, my uncertainty as to whether it *ought* to be tasted or not would act as a deterrent rather than an incitement to my sampling it.¹⁷⁸

Still, even when I am following my appetite, I shall be acting in a sense rationally because I am acting logically and syllogistically. Moreover, the rule that my evil act is following is only incidentally contrary to the right rule that governs moral behavior. As a formula of action, "be logical," it is identical with it. The incidental flaw occurs not in the form of the weaker syllogism, but in a false estimate and classification of the particular perceptual fact or act that forms the subject of the minor premise. I am uncertain as to its relation to my real good; I am certain as to its relation to my immediate desire; and appetite does the rest.¹⁷⁹

To the extent, then, that action contrary to knowledge implies ignorance at this point, Socrates is right.¹⁸⁰ Just what would happen if the two syllogisms opposed to each other were both of them equally strong, and we were as certain that a given act ought not to be performed as that it would be pleasant to perform it, Aristotle does not say. In that case rational desire—the desire to do what is for our good in the long run—would be as sound as the desire of the moment, and a tussle would take place. But this point is left undeveloped here, though Aristotle in other passages frequently talks in terms of a conscious conflict between appetite and rational will in which there is no uncertainty as to the wrongness of what we want to do, but full consciousness of it. Furthermore, he is silent con-

¹⁷⁸ VII, 3, 1147a, 10–1147b, 5.

¹⁸⁰ *Ibid.*, 1147b, 9–19.

¹⁷⁹ *Ibid.*, 1147a, 10–1147b, 5.

cerning the origin of this uncertainty when it does exist, and leaves the point quite unexplained.¹⁸¹ Indeed, the inconclusiveness of the discussion and its dodging of the problem of the moral struggle between will and appetite have led some critics to suppose that this portion of Book VII was written, not by Aristotle, but by some one more in sympathy with the Socratic teaching.¹⁸²

It is the syllogism concealed in incontinence that distinguishes it from brutishness. Animals, having "no universal judgments, but only imagination and memory of particulars," are incapable of consecutive thinking and syllogistic action of any sort.¹⁸³ And it is the weakness of its minor premise that differentiates incontinence from vice. The wicked man has no uncertainties regarding the propriety of his course. Nor is he haunted by the remorse that disturbs the merely incontinent man.¹⁸⁴ He is sure that the deed he meditates is to his best advantage and belongs in the class of things that should be done. He "is led on in accordance with his own choice, thinking he ought always to pursue the present pleasure; while the other (the incontinent man) does not think so, but yet pursues it."¹⁸⁵

The wicked man, who indulges his desires unconscious of their moral bearing and under the illusion that they are all for the good, is incurable; whereas the merely incontinent man, who is conscious for the most part that some things ought not to be done and doubtful whether the act he has in mind may not belong among them, is curable. He may be weak and unable to stand by his conclusion half-hearted as it is, or, if he is keen and excitable, and quick and violent in his passions, his impetuosity may allow imagination rather than deliberation to guide him. But he is not as yet actually wicked. "For wickedness is like a disease such as dropsy or consumption, while incontinence is like epilepsy; the former is a permanent, the latter an intermittent badness."¹⁸⁶ But incontinence in

¹⁸¹ Cf. Ross, *op. cit.*, p. 224.

¹⁸² This is Cook-Wilson's view; cf. Stewart, *op. cit.*, II, p. 142.

¹⁸³ VII, 3, 1147b, 3-5.

¹⁸⁴ VII, 8, 1150b, 29-31.

¹⁸⁵ VII, 3, 1146b, 19-24.

¹⁸⁶ VII, 8, 1150b, 29-1151a, 5.

any one line of action may turn into a vice by becoming unconscious and chronic; just as when continence with respect to actions of a certain sort becomes habitual and unconscious, the uncertainty that leads to incontinent outbursts is overcome and dispelled, and a chronic state of good-temper or courage or temperance, or whatever the virtue may be, is established.¹⁸⁷

Plainly continence and incontinence may be exhibited throughout a very wide range of activity. In fact, the weakness or strength of will they imply may exist wherever an activity may be carried to excess. We may, however, exclude from our discussion, though not altogether from the sphere of incontinence, excesses of activity that are brutish or morbid and not normally human, as for example, phobias of various sorts and abnormal appetites. It is difficult to draw the line between incontinence of this sort and simple human frailty at one end and out and out madness at the other.¹⁸⁸

Furthermore, the exercise of continence and incontinence in matters of victory, honor, wealth, and the like, which arouse such passions as ambition, jealousy, and anger, is obviously of less moral significance than their exercise with respect to the bodily appetites. The irascible or inordinately ambitious man is considered a more reputable person than the libertine. For, after all, it is in pursuing things that are worth choosing in themselves that he allows his passions to run away with him; whereas the libertine abandons himself to an immediate pursuit of pleasures that are not worth choosing—or, for that matter, avoiding—but are simply to be accepted in so far as they accompany the natural functioning of the body. Indeed, we do not regard the ill-tempered or the over-ambitious man as actually *wicked*, although we do regard ill-temper or too much ambition as bad and to be avoided.¹⁸⁹

Strictly speaking, then, we use the terms continent and incontinent of a man's attitude towards sensual pleasure. His corresponding attitudes towards physical discomfort and pain we call respectively endurance and softness. Endurance is not

¹⁸⁷ Cf. Ross, *op. cit.*, p. 225.

¹⁸⁸ VII, 5, 1148b, 15–1149a, 24.

¹⁸⁹ VII, 4, 1147b, 20–1148b, 14; 6, 1149a, 24–1149b, 26.

the same as continence because the attitude the good man assumes towards pain is the purely defensive one of resistance, whereas towards pleasure he takes the offensive and wins a victory over it. Endurance, then, is to continence as resisting is to conquering.¹⁹⁰ Finally, we may note that a man may be too continent and take less interest and "delight than he should in bodily things," just as he may be too temperate, and more frigid and ascetic than a truly good man ought. Continence, then, like virtue, is really a mean between extremes. This is not obvious at first sight, since over-continent like over-temperate men are so rare as to be negligible. Hence continence is popularly thought to be contrary only to incontinence, as temperance is commonly supposed to be contrary only to self-indulgence.¹⁹¹

Had Aristotle lived to-day, he could not have dismissed excessive continence and temperance so lightly. The attitude of negating most of life, and the vice, as he would have accounted it, of abstinence would have stood out in almost as glaring a contrast to the golden mean of moderation in all things, and would have deserved as much comment, as incontinence and the vice of self-indulgence. Indeed, to us the striking thing about the Aristotelian ethics is its humanity and its freedom from the moral dualism that at times rendered Plato's thought turgid, and that has muddied and still muddies so much of our modern thinking. The nearest that Aristotle ever comes to breaking up the unity of human nature and dividing it into two alien and hostile camps, one good, the other evil, is his distinction, with which we are already familiar, between the contemplative and the practical or moral activities, and his assertion that the life of the detached thinker is "higher" than that of the man of action and practical virtue.¹⁹² We are, to be sure, warned against "those who advise us, being men, to think of human things, and, being mortal of mortal things," and we are exhorted "so far as we can to strain every nerve to live in accordance with the best things in us."¹⁹³ But this, it should be carefully noted, is not a warning, of the sort to which we are

¹⁹⁰ VII, 7, 1150a, 23-1150b, 17.

¹⁹¹ VII, 9, 1151b, 23-1152a, 6.

¹⁹² X, 7, 1177a, 12-1177b, 26.

¹⁹³ *Ibid.*, 1177b, 31-1178a, 3.

so accustomed to-day, against allowing, *within* the sphere of ethical conduct, an essentially low and immoral set of propensities to overcome a set that is essentially noble and high. It is rather a warning, of a kind quite novel to our modern ears, against rating too highly any life, however noble, that is merely moral and devoted to righteousness alone. All activity in accordance with moral and practical virtue, however excellent it may be of its kind, is a human and a mortal thing. It befits only our human estate,¹⁹⁴ and attaches us to our peculiar type of organism and needs, and to the ends and ideals prescribed by our particular nature and situation.

But *within* the sphere of such activity there is no hard and fast cleavage between a lower and a higher. There is no pitting, for example, of the body against the soul, of the world and the flesh against a principle essentially opposed to them. On the contrary, Aristotle expressly tells us that some of our greatest moral virtues "seem even to arise from the body, and virtue of character to be in many ways bound up with the passions. . . . Being connected with the passions also, the moral virtues must belong to our composite nature; and the virtues of our composite nature are human; so therefore are the life and happiness which correspond to these."¹⁹⁵ Furthermore, practical wisdom, which determines "rightness in morals," is linked to this virtue of character, which in its turn is determined by the kind of organisms we are, and by the kind of body, passions, and parts we possess.¹⁹⁶ Far, then, from undermining human goodness and happiness, the flesh underpins them. And so far as the world is concerned, the goods it provides are, as we have recently seen, an aid, not a detriment, to the exercise at its best of virtuous activity.¹⁹⁷

Nor is there any consolation for the confirmed dualist in the Aristotelian opposition of the contemplative to the merely moral life. Even this attenuated and innocent dualism is minimized, from whichever direction we approach it. So far as

¹⁹⁴ X, 8, 1178a, 9-10.

¹⁹⁵ *Ibid.*, 1178a, 9-23. The order has been slightly changed.

¹⁹⁶ *Ibid.*, 1178a, 9-23.

¹⁹⁷ *Ibid.*, 1178b, 33 ff.

contemplative activity is concerned the human thinker is still a human being. Only in God does the intellect operate, as it were, *in vacuo*, independent of a given moral basis and bias. So detached an operation "would be too high for man."¹⁹⁸ The devotee of the contemplative life, then, is not to think at the expense of his humanity and of his practical and moral activities. He is not, as is sometimes urged upon the Platonic philosopher, to look upon the flesh and the world, with which his human nature is bound up, as a prison or a tomb in which "the best thing in us" lies fettered and constrained against its nature. He is not to become a recluse, an ascetic, or even a puritan in morals. To do so would be suicidal, since it would involve the destruction, or at least the mutilation, of the very nature by which alone the activity of contemplation can be exercised so far as human beings are concerned. And what could be more absurd and unreasonable than the spectacle of a reason, however pure, gravely and deliberately sawing off between itself and the supporting trunk of the physical world that very branch of the tree of life to which it must cling if it is to live!

Reason, in the interests of its freest, most detached, and most scientific use, bids rather the human being in whom it is lodged to assert the unity of his composite organism and to make the most and the best of all his functions. For, as Aristotle hastens to point out, "our nature is not self-sufficient for contemplation, but our body also must be healthy and have food and other attention."¹⁹⁹ Nay more, even a modicum of external prosperity is necessary to the best exercise, not only of the human, but of the divine within us. External conditions and practical affairs are not, to be sure, needed as the objects of contemplative thought. "The man who is contemplating the truth needs no such thing, at least with a view to the exercise of his activity; indeed they are, we might say, even hindrances, at all events to his contemplation." Nevertheless, the scientist and the philosopher, however absent-minded, is still a man, and "in so far as he is a man and lives with a number of people, he chooses to do virtuous acts; he will therefore need

¹⁹⁸ X, 7, 1177b, 26-27.

¹⁹⁹ X, 8, 1178b, 33-35.

such aids to living a human life"²⁰⁰ But, because of the superior compensations enjoyed by the detached spectator of truth, that need will not be so marked as it is for those entirely given to practical affairs and the performance of moral acts.²⁰¹

The unity, to all intents and purposes, of man's composite nature is revealed also by an inspection of the moral and practical life. Reason does not hate the world, the flesh, and the morality to which in the human animal it must always return from its loftiest flights to nest. But neither is it a cuckoo laying its eggs where they do not belong. The nest is of its own construction. The righteous life is not irrational. It is rational so far as it goes. Practical wisdom is true knowledge of what is best for *man*, and reason, even when its vision is narrowed and confined to meditation upon our human estate, is still reason. The moral law, the golden mean, is an apprehension, in the midst of all the differences and degrees of human activity, of something that is universally valid, for us at least. There is, then, in human activity according to moral virtue "some likeness" of contemplation—which, Aristotle would maintain, is lacking in the perhaps more highly socialized and well-ordered practical activities of the industrious ant or the busy bee. This "share in contemplation" organizes our practical pursuits into a career, gives us the idea of our life as a whole, and enables us to find even our practical and "moral" good in something wider and higher than the business or the enjoyment of the moment. By virtue of our rationality each act of ours is performed and each moment lived, not in a wrack and turmoil of unremembered, unforeseen, and disconnected experiences, but beneath an overreaching sky that stretches unbroken from sunrise to sunset, and that is equally suffused from horizon to horizon with the glow of a single, unified self-fulfilment. In other words, we are privileged to substitute abiding happiness for fleeting pleasure, a privilege denied to the other animals, which "in no wise share in contemplation."²⁰² Consequently, Aristotle tells us, although the man who exercises and

²⁰⁰ X, 3-7; cf. Stewart, *op. cit.*, II, p. 454.

²⁰¹ X, 8, 1178a, 24-1178b, 3.

²⁰² X, 8, 1178b, 20-32; cf. Stewart, *op. cit.*, II, p. 451.

cultivates his reason in accordance with its intellectual virtue and in the service of pure contemplation "seems to be both in the best frame of mind and dearest to the gods,"²⁰³ the man who exercises it only with regard to the activities of his purely human estate and "in accordance with the other (the moral) kind of virtue is happy but in a secondary degree."²⁰⁴

That the happiness accruing from the exercise of practical wisdom alone must be inferior to that which rewards contemplation follows from the essence of reason. Thought is essentially a pursuit of the universal and the eternal, and it can be fully satisfied only in grasping them. But, when it is exercised with reference to a purely human concern like morality, it is dealing with a contingent and variable sphere in which no absolute truth can be discovered, no precise rules can be formulated, and hence no thoroughgoing rational satisfaction can be found. The inexact, relative, and provisional "rightness in morals" accordant with practical wisdom can, then, never bring the mind the same high and final happiness as that conferred, say, by rightness in mathematics, which is rigid, universal, and unalterable.

To Aristotle's preference for the contemplative life, and to his insistence that the man whose mind stops short with the practical and moral concerns of life also falls short of complete happiness, we need make no objection. True, his attitude may reflect mainly his own personal prejudice in favor of science and betray the dryness of an intellect deficient in aesthetic, religious, and moral enthusiasms and satisfactions. Doubtless, also, it was influenced by the fact that the specifications laid down by physics for an unmoved source of motion disqualified "practical activity," and could be met only by the self-sufficient and self-engrossed activity of pure contemplation. Still, we may see in it also a wider lesson, which, even if it is not contained in the letter, is in harmony with the spirit of the text.

All purely "moral" activity, we might say, is really local, not cosmopolitan in its scope. It smacks of the home-town, not of the universe at large, and is the sign of a limited, finite,

²⁰³ X, 8, 1179a, 22-24.

²⁰⁴ *Ibid.*, 1178a, 9 ff.

and particular kind of being constituted and circumstanced in a special way. It neither acquaints us with what is universally true, nor attaches us to a good or a happiness that we can share with beings differently organized, situated, and aimed from ourselves. The good and the happiness it supports are entirely relative in character. In our case, for example, they are specifically human in type and might not suit at all the wants of the inhabitants of Mars. Nay more, moral and practical activity, if unsupplemented by freedom and breadth of intellectual vision, may be an actual detriment to rationality and tend to destroy the very life it ought to save. Uncorrected, it is sure to assert the human good, or even some local and temporary standard of right action, as valid for all space and time, and thus to make us awkward, offended, and even unhappy in the presence of ideals and conduct other than those fostered by our native soil. It is, to be sure, grotesque and fatal for us to try to *act* as other than human beings. But it is no less irrational for us to try to *think* as human beings merely, and to allow our intelligence and vision to be enclosed within the moral walls that necessarily limit our behavior. To do so is to make a prison of what should be a house.

It is only on the level of contemplative reason and the vision of truth that we can meet and converse amicably with organisms of a different constitution and hence of a different morality from our own. For it is the essence and the greatness of contemplative activity that it can refrain from regarding any given system of practical and moral life as absolute, and can thus check the lower impulse of every such system to impose itself as final upon the entire universe and even upon God himself. At the same time, by detaching each organism from itself, raising it above its particular estate, and providing a ground for a universal understanding, contemplative reason is able to open to all concerned a joint account of identical perfection and happiness, which may properly be accounted "higher" than the private happiness accessible only to an organism of a particular type. As rational beings we can consort with any intelligence, no matter what kind of body it may inhabit, and however alien to our own the conditions of its mortal, practical, and moral

existence may be. And a divine intelligence, lacking a specific base and lodged in no particular organism, must be without practical activities, and hence without a particular morality of its own, human or other. Here we have another ground for believing that any God who is not merely a local and a tribal deity must be essentially an activity of pure reason in and for itself.²⁰⁵

This does not mean, however, that contemplative reason is unmoral. On the contrary, the most detached spectator of all time and existence would see and affirm the necessity of every organism's living within the limits and according to the ideals set for it by its specific nature, and would reprove any creature that was false to its particular kind of good. To the human being who exercised it reason might be expected to recommend human excellence, to the Martian, Martian virtue, in the same breath that it forbade them both to measure the one by the other. And this is precisely what reason does in our case. We are untrue to our rational nature, if in our thinking we take no account of other possible organisms with other possible moral goods, and seek to impose our human standards and system of conduct upon the universe at large. But we are equally untrue if we fail in our behavior to recognize and observe the validity of that standard and that system for ourselves. By surveying and understanding the human situation we reach a rough idea of the best and happiest course, on the whole, for the human animal to take. And by acting in accordance with that idea we create the particular conditions which best shelter and promote the wider life of scientific inquiry and philosophic contemplation of universal truth.

To act, however, without knowledge of the true bases and limitations of our moral ideals is to lack enlightenment and to miss the insight, sympathy, and tolerance, and the higher reaches of happiness attained through them, of which a rational animal is capable. It is the contemplative activity of reason, not the practical, that constitutes the broad-mindedness and the clear-headedness of man. These qualities display themselves on two planes. The perception that the human good as

²⁰⁵ Cf. X, 8, 1178b, 7-23; also Stewart, *op. cit.*, II, p. 454.

a whole is relative, not absolute, in the universe is reflected within the sphere of human morality by a perception of the relativity of the moral standards of different times, places, and even individuals. In the spectacle of reason realizing that no ethics can be universal in its scope, or exact and rigid even within its field, we see the human spirit at its happiest and its best, resisting what is perhaps its most persistent and irresistible temptation, achieving its most difficult conquest over a lower self, and exercising victoriously its highest function.

We have now completed our review of ethics in the sense in which Aristotle uses the term—the study of practical wisdom “in that form of it which is concerned with a man himself—with the individual.”²⁰⁶ But, we may remember, Aristotle is also quick to realize that the individual cannot be dissociated from the community.²⁰⁷ Man is a “political animal,” as political a one, we might say, as he is a two-legged creature. It is natural and instinctive for him to associate with others.²⁰⁸ Hence no system of ethics is complete without a discussion of human social and political organization. Indeed, at the beginning of the *Nicomachean Ethics* Aristotle applies the term politics to what we should call moral science.²⁰⁹

Before, however, we turn to Aristotle's discussion of the state, we shall do well to follow him in his study of the impulse to associate upon which the social structure rests. To this he devotes Books VIII and IX of the *Nicomachean Ethics*, which deal with the subject of *friendship*, or, as we might say to-day, the social and sociable side of the individual man. After pointing out that friendly association is for many reasons necessary to the welfare of the individual, and that it is the basis of many virtues,²¹⁰ Aristotle proceeds to divide into three classes the bonds that hold people together. In the first place, people may be drawn to one another because they can be of reciprocal use. Again they may hang together because they give one another pleasure. Both these sorts of association are in a way impersonal, and as we should say to-day, “selfish,” for they

²⁰⁶ VI, 8, 1141b, 29–31.

²⁰⁷ *Ibid.*, 31–1142a, 11.

²⁰⁸ *Pol.*, I, 2, 1253a, 1.

²⁰⁹ *Eth. Nic.*, I, 2, 1094a, 26 ff.

²¹⁰ VIII, 1–2, 1155a, 1–1156a, 5.

do not rest upon a feeling for the individual himself but rather upon the use or pleasure that can be got out of him. Nor are they apt to be permanent, since when the motive of friendship of this sort "is done away the friendship is dissolved, inasmuch as it existed only for the ends in question."²¹¹ Moreover, they can exist between vicious as well as virtuous men²¹²—in which case, we might add, they are frequently anti-social in character.

The third and best type of friendship—indeed, the only type that is durable and slander-proof, and that regards the individual not as a means but as an end—is the so-called "friendship of the good," which unites "men who are good and alike in virtue." Either party to such a friendship loves the other for himself and for his intrinsic qualities, rather than for the use to which he can be put or the pleasure that can be had from him. However, since nothing can be more useful or pleasant to the good man than goodness in his friend, such friendship includes the two other kinds.²¹³

But the springs of even this love of the individual for himself are still, according to our modern standards, self-love and self-interest. In loving a friend for his own sake, Aristotle tells us "men love what is good for themselves; for the good man in becoming a friend becomes a good to his friend. Each then . . . loves what is good for himself."²¹⁴ In Book IX Aristotle develops this doctrine of altruism as a form of self-love. "Friendly relations with one's neighbours," he says, "and the marks by which friendship are defined, seem to have proceeded from a man's relations to himself." They are an extension of the harmonious existence, and the pleasant and profitable talking to oneself, that can be carried on in isolation. A friend is an *alter ego*, but he is still essentially a part of one's own ego, and one's love of him is essentially love of oneself.²¹⁵ Only, "in friendship of the good there is an equal return in good will and pleasantness." Each party gives as much as he receives, which is frequently not the case in associations for mere pleasure or profit.²¹⁶ So far, then,

²¹¹ VIII, 3, 1156a, 6–1156b, 6.

²¹² VIII, 4, 1157a, 16–20.

²¹³ VIII, 3–4, 1156a, 7–1157b, 5

²¹⁴ VIII, 5, 1157b, 25–1158a, 1.

²¹⁵ IX, 4, 1166a, 1–1166b, 1.

²¹⁶ VIII, 5, 1157b, 25–1158a, 1.

even the best type of friendship would seem to be marked by equality and justice, but not by what we should call unselfishness.

But this, as Aristotle goes on to show, is by no means all there is to the matter. If we examine friendship of the higher type more closely, and particularly in its deepest and most instinctive forms, as in the love of a mother for her child, we shall find that "it seems to lie in loving rather than in being loved," in giving without asking anything in return. Being loved, indeed, is merely incidental to the loving that "seems to be the characteristic virtue of friends."²¹⁷ Moreover, in affection of this sort there is a sense of personal identity with the person loved, or rather there is a feeling of being included in a wider self of which one's friend is also and equally a part. The love of brothers, for example, expresses the kinship that "makes them identical with each other . . . they are therefore in a sense the same thing, though in separate individuals." So, too, parents love their children as part of themselves; not, however, "selfishly" as a mere adjunct or possession of their own "egos," but as "a sort of other selves," leading "a separate existence."²¹⁸

In relations like these, which are found not only in kinsfolk but in comrades, and, we might say, in *personal* ties in general, the distinction between "egoism" and "altruism" becomes trivial and a matter of words only. Loving our friends is self-love of the most pronounced and deepest kind. It is the "ego" that does the loving, and it can only love what is an integral and valuable part of its own life. But, since we are instinctively and naturally gregarious and social animals, the self that we instinctively and naturally love most deeply, and in which our separate individualities are expressed most completely, is social in character. It includes other people regarded not as slaves but as equals, and its most entirely "selfish" happiness is found, not by calculation but by instinct, in altruistic activity. For the individual, then, to be selfish at the expense of others is really for him to be selfish, paradox though it seems, at the expense of himself.

²¹⁷ VIII, 8, 1159a, 27-1159b, 1.

²¹⁸ VIII, 12, 1161b, 27-33.

Thanks to our recent studies of crowd psychology, and to our growing belief that the herd instinct is more primitive in point both of racial evolution and of individual psychological structure than the sense of separate personality, we are beginning to see the futility of the opposition of egoism to altruism, which for so long a time was a favorite bone of contention among modern moralists. But Aristotle had already recognized it in a fine passage in Book IX in which he discusses the question, in his time, also, it would seem, much debated, "whether a man should love himself most, or some one else."²¹⁹ The answer depends, we are told, upon what we mean by "self." If the self we love is identified with "wealth, honor, and bodily pleasures," and if we love these things more than we do our friends and seek them at other people's expense, as the wicked do, then self-love is justly reproached. But even here the opposition is not really between ourselves and others, since love of this sort is not really *self-love* in its deepest and truest sense. Man's true self is his reason which is universal in its scope and its interests. But the love we have been describing is irrational in its origin, springing, as it does, not from reason but from appetite and emotion, and it is equally irrational in the objects on which it sets its heart. That "those who give themselves the preference in regard to objects of this sort" are what most people mean by "lovers of self" is not surprising, since most men are infected with this kind of selfishness.

The self, however, that the good man, who obeys his reason, loves, includes other people. It is a community of friends in which his private, separate self attached to the interests of his particular body plays a subordinate part. The good man sacrifices wealth, honor, office, nay even the opportunity to do a noble deed and acquire merit for himself, if by the sacrifice he may benefit his friends and his country. If necessary he will even die for them out of loyalty to himself, feeling, as Aristotle remarks, that it is the quality not the quantity of one's living that counts, and preferring "a twelve month of noble life to many years of humdrum existence, and one great and noble action to many trivial ones."

²¹⁹ IX, 8, 1168a, 28-1169b, 2.

Such love, of course, is self-love. The actions in which it is expressed are felt by the individual to be to his own individual advantage. The wider self which includes others is still *his* self. It is *he* whom "many years of humdrum existence" would bore. In a sense, then, "the good man is seen to assign to himself the greater share in what is noble," since it is more blessed to give than to receive. But such selfishness is praiseworthy. From it all invidious distinctions between egoism and altruism have disappeared, and there is no longer any sense in debating "whether a man should love himself most or some one else."

The rest of Aristotle's discussion we pass over very briefly. It is devoted mainly to a further development of the necessity and naturalness of friendship, to pointing out its similarities and its differences to various cognate qualities, and to considering various *minutiae* of the subject. Enough has been said to show that the individual man is naturally a political animal, and that his friendly relations with his neighbors and the marks by which friendships are defined (including, we might say, all his social and political relations) seem to be, not artificial, but to have proceeded from his relations with himself and to express his rational nature.²²⁰ With so much as preamble, let us turn to the *Politics*.

²²⁰ Cf. IX, 4, 1166a, 1-2.

CHAPTER X

ARISTOTLE'S POLITICAL THEORY

THE *Politics* is not a single organic whole. It is rather a compilation of five different treatises, dealing, in the order of the books, with (Book I), the household or family; (II), ideal states and the best existent constitutions; (III), citizenship and the classification of constitutions; (IV–VI), inferior constitutions; and (VII, VIII), the ideal state.¹ The order in which the books were written and are best read is a disputed point. Apparently, Aristotle's views on politics developed along much the same lines as his metaphysics and ethics. The fragments of the dialogues and other early lost treatises show that he started as a good Platonist, believing politics like ethics to be an exact science, and the ideal state capable of a rigid mathematical formulation.² In Books II, III, VII, and VIII we find him, to be sure, criticizing the details of the Platonic and other Utopias, but still engaged in a thoroughly Platonic manner in trying to construct an ideal state of his own. Much more realistic, disillusioned, and therefore seemingly later, are Books IV, V, and VI in which constitutions like oligarchy and democracy, roundly damned in the subsequent books but presumably earlier writings, are at last studied on their merits and even cured of their defects and turned into workable systems. And Book I, it has been suggested, came latest of all as an attempt to give the state, and incidentally the family, now conceived as built up from below rather than let down from above, a thoroughly naturalistic basis in human nature as it is.³ But the *Politics* never escapes the influence of Plato's later political theory, and its debt to the *Statesman* and the *Laws* is only too obvious.⁴ To the last decade of Aristotle's life belongs

¹ Cf. Ross, *op. cit.*, p. 236.

² Jaeger, *op. cit.*, pp. 88–89, 273–276.

³ Cf. Jaeger, *op. cit.*, pp. 278–286.

⁴ On this point cf. Barker, *op. cit.*, p. 291, note 1, pp. 380 ff.

also the detailed, scientific study of the one hundred and fifty-eight state constitutions.⁵ As we have followed, albeit with somewhat wavering footsteps, the line of a similar evolution in Aristotle's metaphysical and ethical theory, we may as well tread the same path in considering his discussion of politics; remembering, however, that in this case all roads lead equally to Rome and that many critics still prefer to read the books of the *Politics* in the order in which they are numbered.⁶

Turning back, then, to the lost dialogues and other early works, we find Aristotle explicitly announcing in much the same sort of way as Plato had announced in the *Philebus*, that the Good is the most exact of all measures.⁷ In the *Protrepticus* this doctrine is frankly imposed upon would-be framers of constitutions. Just as it is a poor carpenter, we are told, who gets his ideas, not from a standard plan, but from existent buildings, so it is a poor lawgiver who takes as a model for his work other humanly devised constitutions like those of Sparta or Crete. For an imitation of what is not ideal cannot itself be ideal, nor can a copy of anything that is not divine and enduring be itself permanent and deathless.⁸

Passing now to the *Politics* we find Aristotle still convinced that the absolutely best type of state can be thought out *in vacuo* and that a Utopia is feasible. But whether he ever accepted the Platonic version of an ideal commonwealth is doubtful. Certainly in Book II of the *Politics* we find him criticizing it at length. In the first place, he argues, the rigid unity of the state, which Plato sets up as an ideal, and as means to which he advocates his reforms, is of dubious value. The greatest degree of variety, division of labor, and compensatory activities compatible with social stability is to be preferred. Again, it is better that all the citizens should take their turn at governing than that the ruling class should form a closed corporation. To advocate, then, such reforms as the abolition of private property and the communizing of women and children in the interests of unity is to advocate them on false grounds. Nay more, even if unity were desirable, it is doubtful whether

⁵ Barker, *op. cit.*, p. 272.

⁶ Cf. Ross, *op. cit.*, p. 236.

⁷ Jaeger, *op. cit.*, pp. 88-89, 273.

⁸ *Ibid.*, p. 274.

the end would be best subserved by such means. Common ownership of property and of wives and children might well be a fruitful cause of discord between the individual partners to it.⁹ Moreover, the crimes resulting from this discord would, in the Platonic scheme with not only its ignoring but its ignorance of all family relations, raise unwittingly the hand of brother against brother and of child against parent; not to speak of the unavoidable incest that would result.¹⁰

The truth is that the individual himself cannot be communized and rendered oblivious of the distinction between "mine" and "ours." This being the case, communism such as Plato advocates would tend to destroy all sense of individual responsibility. "What is common to the greatest number has the least care bestowed upon it . . . and everybody is more inclined to neglect a duty which he expects another to fulfill." The individual naturally "thinks chiefly of his own interest; hardly at all of the common interest," and then "only when he himself is concerned as an individual."¹¹

In other words, without private interests there can be no public interest, since interest of any sort can only be felt by the individual, and must be felt by him as the interest of his particular self. Because the separateness of a man's personality cannot be abolished and his individuality cannot be communized, public spirit and public service must always consist in placing at the disposal of the state something that each man considers essentially his own. Deprive him of what he instinctively considers *his*, and you create within him an artificial opposition of public to private interest, and turn what should be a free gift into a forced sacrifice, thus embittering his natural propensity to share with and serve his fellow beings, and poisoning at its roots the impulse from which society springs. The wider the scope of his individuality and the more he can call his own, the richer in virtue his contribution to the community, and the richer the community for it.

Seeing, then, that there can be no state if there are no individuals, and that the existence of individuals at their best

⁹ II, 1, 1260b, 26-3, 1261b, 32.

¹¹ II, 3, 1261b, 16-35.

¹⁰ II, 4, 1262a, 25-39.

involves individual interests, activities, and possessions, the sense of individuality and of particular, private ownership must be retained and encouraged in an ideal commonwealth. To this end, Aristotle feels, private property and the family are indispensable means. Without them the individual would be starved of his instinctive sentiments of regard, affection, and friendship for others upon which any society of individuals must rest. Communize women and children, and "love will be watery," like a "sweet wine mingled with a great deal of water."¹² Remove private property, and you destroy the spirit and the pleasure of co-operation, since a man no longer has anything of his own to put at another's disposal. "Kindness or service to friends or guests or companions . . . can only be rendered when a man has private property." The great virtues of liberality and generosity are bound up with it. A man cannot share with others if he has nothing of his own to share. "It is clearly better," Aristotle concludes, "that property should be private, but the use of it common; and the special business of the legislator is to create in men this benevolent disposition," rather, we might add, than to uproot it, and replace it with the meddlesomeness and recrimination that come from all men attending to a business that is everybody's and nobody's. The institution of private property, to be sure, is capable of great improvement. But, if improved as it might be "by good customs and laws, it would be far better and would have the advantage of both systems."¹³

Finally, Aristotle thinks, Plato commits the fallacy into which so many reformers fall, of supposing that existing conditions can be altered along the desired lines and at the same time remain unchanged in all other respects. He fails to see that, supposing his reforms could be inaugurated, he would, in saving mankind from certain evils, also be depriving them of many advantages they now enjoy. Existing conditions and the experience of ages have a certain authority that cannot be disregarded. "In the multitude of years" the changes proposed by Plato "if they were good would certainly have not been

¹² II, 4, 1262a, 41-1262b, 22.

¹³ II, 5, 1262b, 22-1263b, 14.

unknown; for almost everything has been found out, although sometimes they are not put together."¹⁴

After pointing out in some detail that "the same or nearly the same objections apply to Plato's later work, the *Laws*,"¹⁵ Aristotle reviews and criticizes two other Utopian schemes—one set forth by Phaleas of Chalcedon, who wished not so much to communize as to equalize property, the other by the philosopher-architect Hippodamus, the first to lay out a city in the rectangular, American manner, who tended to divide everything, citizens, laws, and land, into three classes, and worked out numerous other impracticable proposals.¹⁶ The rest of the book is devoted to a discussion of three actual constitutions, the Spartan, Cretan, and Carthaginian, in which the communistic idea had been actually tried out to a certain extent. And here Aristotle collects evidence to show that the collective scheme has not worked well in practice.¹⁷

Having thus cleared the ground, Aristotle is now ready to begin the construction of his own ideal state. But here, too, certain preliminaries are necessary. To these Book III is devoted. We must first ask, what is a state? and what do we mean by a "citizen"? The answer is that, whatever the conditions laid down for citizenship may be, its essence lies in sharing in the deliberative or judicial administration of the state, and that "speaking generally a state is a body of citizens sufficing for the purposes of life." Aristotle, however, does not use the term "state," as we do, in the sense of "fatherland" or "country," but rather as identical with what we should call the "government." For, he says, if a particular constitution is overthrown and replaced by a new form, then the "state" in question lapses, and another takes its place.¹⁸ Furthermore, the state is not co-extensive with the whole life of the citizens who compose it and does not absorb all their vices and virtues. A good citizen, for example, need not be a good man in all respects. And, though a good man must necessarily be a good

¹⁴ II, 5, 1263b, 28-1264b, 26.

¹⁵ II, 6, 1264b, 27-1266a, 30.

¹⁶ II, 7-8.

¹⁷ II, 9-12.

¹⁸ III, 3, 1276a, 25-1276b, 16. Cf. 9, 1280b, 13-30.

citizen among other things, he also has values that citizenship does not express. Only in the good *ruler*, whose whole business it is to govern, will the virtue of the good man and the good citizen coincide.¹⁹

The origin, purpose, and justification of the state lie in the fact that it is an indispensable condition of human well-being and happiness. Man is a political animal, and therefore "men, even when they do not require one another's help, desire to live together." But naturally they are also more closely knit in proportion as by their common interests "they severally attain to any measure of well-being." If this be the case, we get an immediate criterion for distinguishing good from bad constitutions. The common interest is our standard, and "governments which have a regard to the common interest are constituted in accordance with strict principles of justice, and are therefore true forms, but those which regard only the interest of the rulers (whatever the ruling class may be) are all defective and perverted forms, for they are despotic, whereas a state is a community of freemen."²⁰ From the "freemen" Aristotle naturally excludes the slave-class, and would like to exclude the artisan, the mechanic, and the husbandman.²¹ This restriction of citizenship may at first sight seem narrow-minded and not wholly "in accordance with strict principles of justice." However, we must remember that the Greeks had little conception of representative government, and that the average "citizen" did not confine his political activities to voting, as he does with us, but was directly engaged in legislating and must be ready and qualified to take his turn as a judge. The legislative, judicial, and administrative duties and responsibilities that thus devolved upon the individual "freeman" were, then, so exacting that the status of citizenship could not well be accorded either to the laboring class at home or to the colonial or the inhabitant of a subject-city abroad.²²

The test of devotion to the common interest may be met equally well by a single ruler (kingship) or a small ruling class (aristocracy) or the whole body of free citizens (constitution-

¹⁹ III, 1-4.

²⁰ III, 6.

²¹ III, 5.

²² Cf. Ross, *op. cit.*, pp. 247-248.

alism, as Aristotle calls it). But each form has its special perversion in which class interest is placed above "the common good of all." Thus the monarch becomes a selfish tyrant, aristocracy may degenerate into oligarchy, or a government in the interest of the wealthy alone, and instead of constitutional rule, we may get democracy, which subordinates the welfare of the whole state to the interests of the needy.²³

So far then, we have three eligible candidates for the ideal commonwealth, but no basis for further elimination. This we may perhaps find by asking and answering the question, by what right and on what grounds is one man or body of men justified in ruling another? Is it by sheer weight of numbers—that is, by being in the majority? Or is minority rule justified by superior wealth or superior goodness? Or is the strength of the tyrant sufficient ground? Or the excellence of some outstanding man?²⁴ These questions we must seek to answer, remembering always that the real reason for the existence of the state and the real tie that unites individuals in a given commonwealth, are not security or prosperity, nor yet the satisfaction of the gregarious instinct. The purpose of the state is found rather in the good life—the perfect, self-sufficing, happy, and honorable life of all the citizens composing the community.²⁵

Now, when we are dealing either with the rule of a minority over a majority, or of a majority over a minority, these questions are almost impossible to answer. Wealth, education, birth, virtue, military ability, numerical superiority, have all their just but conflicting claims—claims that are analyzed by Aristotle with a minuteness that we have not the space to describe.²⁶ Two conclusions only emerge with any certainty; first, that "none of the principles on which men claim to rule and to hold all other men in subjection to them are strictly right,"²⁷ and again that "laws when good should be supreme; and that the magistrate or magistrates should regulate those matters only on which the laws are unable to speak with precision, owing to the difficulty of any general principle embrac-

²³ III, 7.

²⁴ III, 10, 1281a, 12 ff.

²⁵ III, 9.

²⁶ III, 11-13.

²⁷ III, 13, 1283b, 28-30.

ing all particulars." Yet, here again, the difficulty persists of saying what laws are good. This, however, is clear—"that laws must be adapted to constitutions," in which case "true forms of government will of necessity have just laws, and perverted forms of government will have unjust laws."²⁸ But this does not get us much further in our search.

Nevertheless, the light is beginning to dawn. We might reasonably feel, as Aristotle appears to do, that aristocracy and the constitutional rule of the many are eliminated, for the time being at least, by the difficulties of drawing up any just and balanced formula reconciling the conflicting qualifications just noted for citizenship and the exercise of rule. True, there is much to be said for government by the many. The crowd is less likely than the individual to be carried away by passion; the voice of the people may be a nearer approach to the voice of God than the voice of a select class; exclusion of the many breeds a discontented proletariat; and after all, since it is the many who are governed, they ought to have a say in choosing their rulers—a choice, moreover, that they are capable of making with sufficient wisdom.²⁹ And yet?

Suppose, Aristotle continues, a single man or family should appear "whose virtue is so pre-eminent that the virtues or the political capacity of all the rest admit of no comparison." Obviously such a person or little group would transcend the state, and it would be unjust to subject them to the laws made by their inferiors, for "such an one may truly be deemed a god among men." In dealing with a man of this sort two alternatives, and two only, would be possible. The one would be to get rid of him by assassination or ostracism—which is what most states do when confronted with outstanding ability; the other and the wiser course, which would prevail in a perfect state, would be that he should be made the lawgiver, and that "all should joyfully obey such a ruler according to what seems the order of nature."³⁰

Kingship, then, would seem to have distinct possibilities as the ideal form of government. At any rate, it is worth examin-

²⁸ III, 11, 1282b, 1-14.

³⁰ III, 13, 1284a, 4-1284b, 34.

²⁹ III, 11. Cf. Ross, *op. cit.*, pp. 254-255.

ing thoroughly. This Aristotle does in the rest of Book III. He begins by distinguishing five types of monarchy. First there is the Spartan, which is elective and military, a sort of "generalship for life." Then there is the type in vogue among the barbarians, which is a legally established, hereditary despotism. To these we may add two others of lesser importance and interesting only historically, the elective despotisms that existed in ancient Greece, and the chieftainships of heroic times whose office was hereditary and whose rule was voluntarily submitted to by their subjects. Finally there is a form in which the king occupies a position analogous to that of the ruler of a household.

The last three forms, and for that matter the Spartan, which is only a sort of perpetual generalship compatible with any type of government, may be left out of the discussion. So, too, may limited monarchy, in which the kingship may rest upon a non-monarchical base such as aristocracy or even democracy. We are concerned only with absolute monarchy—with "the king who acts solely according to his own will."³¹

At close grips the advantages of this sort of monarchy are not so striking. The hereditary principle may be mischievous, if the son is not so able as his father; yet the impulse to found a dynasty is irresistible. Again, too large a body-guard is apt to turn the king into a tyrant.³² Furthermore, no one man can superintend the business of the whole realm. The king must have friends, advisers, and subordinates to help him carry on. They must be his equals if the benefits of monarchy are to be retained. But if they are his equals the monarchical principle in its purity has really been abandoned.³³ Finally, there is the question of the relation of the monarch to the law. Law, indeed, must be supreme. It is passionless and unaffected by desire, its rule is that of God and Reason. But "laws will have no authority when they miss the mark," and to hit the mark "the best man . . . must legislate." Moreover, hard and fast laws, written down in black and white, cannot do justice to the relative and variously shaded merits of individual

³¹ III, 15, 1285*b*, 34–16, 1287*a*, 3.

³² III, 15, 1286*b*, 20–41.

³³ III, 16, 1287*b*, 9–36.

cases. Here the monarch steps in. He must, to be sure, abide by the laws he has framed and let them govern, but he must also deal individually and as an individual with the particular situations to which the law cannot be strictly applied. Still, will any one man be able to do complete justice and determine what should be done, if the law is unable to do so? Perhaps the best thing to do is to appeal from written law to custom and tradition, for "a man may be a safer ruler than the written law, but not safer than the customary law."³⁴

But whether an absolute monarch be best fitted to fulfil the function of framing, interpreting, and enforcing the law remains an open question with Aristotle. It depends, he tells us, upon the nature and temperament of a people. A people that can produce "a race superior in the virtue needed for political rule are fitted for kingly government." And, generally speaking, when a family or individual of this type appears "it is just that they should be the royal family and supreme over all, or that this one citizen should be king of the whole nation." On the other hand, a people that values the status of freeman, and at the same time produces a class capable of political command, are adapted for an aristocracy. And constitutionalism best suits a warlike state where all are disciplined both to obey and to rule and are accustomed to rotation of office among the well-to-do.³⁵ The upshot of it all is that we come out by the same door wherein we went, still with three true forms of government on our hands, and unable to say that any one is necessarily best in all circumstances.³⁶ The only thing we can say with any certainty is that ideal government, by whomever exercised, must be according to law as far as possible, and according to law so sound that it is safe from being tinkered with and continually changed at the behest of class interests or the personal caprice of the legislator.³⁷

But, now, whichever of the three best forms of government an ideal commonwealth may choose, the social and economic life of such a state will have distinctive features. And perhaps a study of them will throw some light upon the ideal form of

³⁴ III, 16, 1287a, 18-1287b, 8.

³⁵ III, 17, 1288a, 7-18, 1288a, 38.

³⁶ Cf. Ross, *op. cit.*, p. 256.

³⁷ III, 16, 1287a, 18 ff.

administration. To a rather inconclusive, and it may be uncompleted discussion of these features, Aristotle devotes Books VII and VIII. We are reminded at the outset that the purpose and justification of the state is the promotion of the most eligible life, and that this life is "the life of virtue, when virtue has external goods enough for the performance of good actions." The acquisition of "wealth, property, power, reputation and the like," possible under social organization, is not, he once more insists, an end in itself. Goods like these ought to be chosen only "for the sake of the soul, and not the soul for the sake of them." The reason for political organization is happiness, and that "form of government is best in which every man, whoever he is, can act best and live happily."³⁸

But it may be objected, government in any form, however free and constitutional, instead of securing happiness to the individual "is a great impediment to a man's individual well-being." To put it on the highest possible ground, the duties and restraints of community life may interrupt and hamper the life of contemplation. To this Aristotle replies that though the criticism may hold good of despotism, it is not true of a government of free men. Freedom from government is indeed better than being ruled by a tyrant. Despotism, governing, as it does, against the will of the governed, is an unjust and irrational proceeding on the even part of the governing class—except where the subject race or class is obviously unfit to rule itself—and therefore cannot make the despot himself truly happy. But constitutional government instituted by freemen is not despotism, nor is its rule tyrannical. It expresses rather than suppresses the will of the individual, and engages his practical and moral activities, the exercise of which brings him happiness of a noble sort. Social and political life, then, is an aid, not an impediment, to the cultivation of the higher interests of the individual. Isolation and retirement from society are neither necessary nor desirable for the devotee of the contemplative life.

At the same time, Aristotle is careful to point out once more that the individual has values and activities which are private,

³⁸ VII, 1-2, 124a, 25.

cannot be communized, and can be exercised in isolation. Cultivation of them is not inactivity, but activity of the most intense kind. It is not true, he tells us, "that a life of action must necessarily have relation to others, as some people think, nor are those ideas only to be regarded as practical which are pursued for the sake of practical results." On the contrary our "thoughts and contemplations which are independent and complete in themselves" are practical in the sense of being self-sufficient and self-justifying. So too, an isolated state, cut off from international relations, is not necessarily inactive. It has its own individual life and value, which its own inner organization is sufficient to support.³⁹

With so much of philosophic preamble Aristotle turns to a description of the life of the perfect state. In the first place, population must not be too large. It is quality, not quantity, that counts. "A great city is not to be confounded with a populous one"—a motto that many modern communities might take to heart. The size of a state has a natural limit determined by the exigencies of good government and the happy life. A large city is rarely, if ever, well governed, and lacking order it lacks beauty. Enough population for the purposes of a good life is sufficient. So, too, with its territory. In size and extent this "should be such as to enable the inhabitants to live at once temperately and liberally in the enjoyment of leisure." The land must produce everything that the citizens need, and must be easy to defend against an enemy, and at the same time be "easy of egress to the inhabitants." The city proper should be "well situated in regard both to sea and land, . . . a convenient centre for the protection of the whole country," and the natural market for the country's produce. Access to the sea has, to be sure, certain disadvantages, but they are more than offset by the benefits of easy export and import and increased trade. In these circumstances, the city will need a navy "commensurate with the scale of her enterprises," officered by citizens but manned from the disenfranchised classes.⁴⁰

The site of the city will be further determined by considera-

³⁹ VII, 2, 1324a, 25-3, 1325b, 33.

⁴⁰ VII, 4-6.

tion of health—such as airiness and a pure and abundant water supply. The streets should be arranged according to the rectangular “modern fashion which Hippodamus introduced,” and the whole should be enclosed within walls “divided by guard houses and towers built at suitable intervals” and constructed with an idea to ornament and beauty as well as to protection.⁴¹ There should be a temple occupying a lofty situation, an assembly place for the freemen, and a produce exchange for the trades. In personal character the inhabitants of this well-ordered spot should be like the Hellenic race, both high-spirited and passionate on the one hand, and intelligent on the other.⁴²

The needs and functions of the ideal state will pertain to food, the arts, armies, revenue, religion, and finally the “power of deciding what is for the public interest and what is just in men’s dealings with one another.” To this end every man should not be “at once husbandman, artisan, councillor, judge” and the like, but there should be division of labor and of classes. Mechanics and tradesmen should be excluded from citizenship, since their “life is ignoble and inimical to virtue.” So too must “husbandmen, since leisure is necessary both for development of virtue and the performance of political virtue.”

The freemen, who have a share in the government of the state and bear arms in its defense, ought to own the land and own it privately, but “by friendly consent there should be a common use of it.” Each citizen should have real estate, both out of town near the frontiers and in the city itself—so that his interests may be neither distinctively urban nor rural, and may be equally exposed to the hazards of war. In this way sectionalism in time of peace and half-heartedness in moments of emergency will be avoided.⁴³ The citizens should take their meals in groups at tables which may be conveniently located in the different houses. These tables will be supported from land owned by the state. Aristotle promises but neglects to give us his reasons for advocating these common meals. Perhaps he saw in them a device for offsetting the isolating in-

⁴¹ VII, 11–12.

⁴² VII, 7.

⁴³ VII, 10, 1329b, 36–1330a, 24.

fluence of private establishments and for fostering community spirit.⁴⁴

Among the citizens there should be no division of military and political duties save that imposed by age. The warriors will be embryo councillors, the councillors older or retired warriors. The priests should be chosen from among the more venerable members of the soldier-councillor group. The husbandmen and traders will be slaves or barbarian foreigners. It is better, however, that they should be slaves chosen from various non-warlike races. Some of them will belong to individuals, others will be owned by the state.⁴⁵ Slaves, Aristotle tells us in another place, should be kindly but strictly treated, and should be encouraged to work by holding out freedom as a prize.

Since the rule of an absolutely wise and benevolent monarch is something that cannot be attained even in an ideal state composed of human beings, it is plainly best that there should be no hard and fast distinction within the citizen class between the rulers and the ruled. "All the citizens alike should take their turn of governing and being governed," with the proviso that the old are more fitted to rule, the young to obey. To produce a class capable of both, a carefully planned system of education is necessary. This system must take into account the kind of animal man is, and must seek to train and discipline his natural gifts into good habits by developing within him "the rational principle and mind towards which nature strives." The statesman, then, "should consider the parts of the soul and their functions, and above all the better and the end; he should also remember the diversities of human lives and actions."⁴⁶

His first care will naturally be that of breeding good material. With this in view he must establish the most advantageous age for marriage—eighteen in the female, thirty-seven in the male, and should see that prospective parents are of sound and suitable constitution. Incidentally Aristotle does not consider the athlete a good eugenic risk. Deformed chil-

⁴⁴ VII, 10, 1330a, 3 ff.

⁴⁵ VII, 9, 1329a, 2-33; 10, 1330a, 24 ff. Cf. I, 5; VII, 10, 1330a, 25-33.

⁴⁶ VII, 13, 1332a, 39-14, 1333a, 40.

dren should be put out of the way. Excess of children should be prevented by birth-control, and here Aristotle favors abortion at an early stage of pregnancy, "before life and sensation have begun" in the embryo. Men should not breed after fifty-five, though after that sexual relations are still permissible "for the sake of health or for some similar reason." Adultery, whether of the man or the woman, should meet with equal social disapprobation, and should be legally punished if committed during the breeding period.⁴⁷ In this connection it is interesting to note that Aristotle imposes a single standard upon both sexes.

The development and toughening of the infant's body should begin immediately. Crying and screaming should not be discouraged, as they contribute to a child's growth and give it exercise of sorts. Till it is seven, it will remain at home. What it hears and sees should be carefully censored till it is well grown. Nor should it come to the table or drink wine. But this does not mean that the literary and dramatic fare provided the adult, any more than his menu at dinner, should be restricted to what is fit for a child.⁴⁸

Education ordinarily includes reading and writing, gymnastic exercises—which, incidentally, should not be overdone—drawing, and music. Little objection is ever offered to the first three, because they are considered "useful." Music, however, is sometimes attacked on the ground that it is not "practical" and has no other *raison d'être* except diversion. This objection Aristotle considers beside the point. In the first place, life is not all work. Though amusement should not be its end, the worker needs relaxation and finds rest in pleasure. Furthermore the real purpose of education is to teach us not so much how to make a living as to live on what we have made. "Nature herself . . . requires that we should be able not only to work well but to use leisure well," for "leisure is better than occupation and is the end." Of course technical education also is necessary. We must be taught things that will be of practical use, and we must be prepared for a business or a profession of some sort. But, at the same time, these things are

⁴⁷ VII, 15, 1334*b*, 25-16, 1336*a*, 2.

⁴⁸ VII, 17.

means, not ends, and we must regard them as such. To place the accent of education upon them is the mark of an illiberal mind. "To be always seeking after the useful does not become free and exalted souls." For "leisure of itself gives pleasure and happiness and enjoyment of life, which are experienced, not by the busy man but by those who have leisure. . . . It is clear, then, that there are branches of learning and education which we must study merely with a view to leisure spent in intellectual activity, and these are to be valued for their own sake; whereas those kinds of knowledge which are useful in business are to be deemed necessary for the sake of other things." Consequently, there can be no disputing the fact "that there is a sort of education in which parents should train their sons, not as being useful or necessary, but because it is liberal or noble."⁴⁹

Judged in the light of such a philosophy of education, Aristotle feels, music and, we might add, the other arts, and in general what we to-day call the humanities, have a paramount importance in any curriculum. Not only does music provide recreation and entertainment and the relaxation that "is of necessity sweet," because "it is the remedy of pain caused by toil," but it is a suitable occupation for a leisure nobly spent, and is an influence in forming character and developing the soul. But, and here Aristotle is far more liberal than Plato in his views on art generally, its function is not merely educational, nor is it to be subordinated to narrowly "moral" considerations. Not only must the intellectual pleasure given by certain kinds of music be taken into account, but the excitement and liberation of emotion by passionate music, so discountenanced by Plato, has also its place. Men are emotional as well as intellectual beings, and the excitement of their emotions gives them "an innocent pleasure" in the course of which "all are in a manner purged and their souls lightened and delighted." Nay more, emotional music may induce a religious and mystical experience from which they emerge "restored as though they had found healing and purgation." And finally, the lower classes, who are incapable of appreciating really good

⁴⁹ VIII, 3, 1338a, 31-1338b, 9.

music, are entitled to a lower order of diversion and to the "perverted modes and highly strung and unnaturally colored melodies in which they find relaxation and amusement." It is only in the education of the young that music should be censored in accordance with ethical considerations.⁵⁰ If we expand the term "music" to cover literature, the theatre, and the other arts, we have a point of view the breadth and sanity of which might well be taken to heart by many of our critics and censors to-day.

Aristotle's description of the ideal state now comes to a sudden end, leaving much unsaid and many incidental promises of further enlightenment unfulfilled. Perhaps, as we have already remarked, the discussion was never finished because of his wavering interest in ideal commonwealths, or perhaps the rest of it is lost. In any case it represents a passing and early phase in the development of his political theory, begun, apparently, while he was still a pupil at the Academy, and continued during his residence at Assos with his friend Hermeias. Book II, we are told, seems to have been written about the time Plato published the *Laws*,⁵¹ and the description of the layout of the ideal city reflects the needs and the local atmosphere of the principality of Atarneus.⁵² But the later books of the *Politics* (IV, V, VI) were not written, it would seem, till Aristotle had returned to Athens after the accession of Alexander, and much water had flown under the bridge in the interval. In any case, we now find him in a quite different and more realistic mood, inclined to a medical rather than a moral attitude, and ready to prescribe even to diseased political constitutions the best methods of circumventing their infirmities and keeping alive. Indeed, the books in question constitute a frank talk with oligarchy, democracy, and tyranny about their necessary regimen if they are to avoid the ever-threatening death from revolution invited by their diseased condition.

By the time, then, that Book IV was written it had become, in Aristotle's opinion, the business of the statesman and the legislator to concern himself not merely with ideal common-

⁵⁰ VIII, 5-7.

⁵² *Ibid.*, pp. 303 ff.

⁵¹ Jaeger, *op. cit.*, p. 300.

wealths but with those that are relatively best under a given set of circumstances, or that are even, both absolutely and relatively speaking, bad.⁵³ We begin first with the worst. Tyranny may be disposed of in a few words. Where the caprice of the tyrant happens to coincide with the will and to gain the consent of his subjects, a despotism may succeed in maintaining itself. But, if the despot governs simply to his own advantage against the will of his people, he is headed towards destruction. For "no freeman, if he can escape from it, will endure such a government."⁵⁴

The chronic ailment of democracy is deficient or misplaced leisure. For, whether we have a property qualification for office, or one of birth, or none at all, it is plain that in a state where everybody's nose is to the grindstone carrying on business and trade nobody has time or leisure to govern, or the will to pay a special leisure class to administer the state. Instead, a lot of laws are passed and allowed to take care of themselves. There must, of course, be laws and a constitution, but of necessity they are general and cannot deal with special cases as they arise. In a good government they need to be supplemented by a constant and lively interest on the part of the upper classes in the running of the state. And for this leisure is necessary.

Still, it is better for a busy people "to set up the authority of the law and attend assemblies only when necessary," than to let the authority pass into the hands of a proletariat just prosperous enough and idle enough to be attending the assembly all the time. In that case, the people, not the constitution, "becomes the monarch," and "demagogues make the decrees of the people override the laws, by referring all things to the popular assembly." But the will of the people, if unrestrained by a constitution, is just as tyrannical as the will of a simple despot. "The decrees of the demos correspond to the edicts of the tyrant; and the demagogue is to the one what the flatterer is to the other." When democracy comes to mean the tyranny of the majority, it has reached its lowest ebb. The minority rule of oligarchies, however, is subject to similar differences of qualification for office-holding, and, when wielded

⁵³ IV, 1.

⁵⁴ IV, 10.

by a small hereditary class subject to no constitutional restraints, becomes equally tyrannical.⁵⁵

The wise legislator, intent upon the best and at the same time a practicable form of government, will try to strike a happy mean between oligarchy and democracy, so far as qualification for citizenship and election to office is concerned,⁵⁶ and to build up a large, prosperous middle class which may hold the balance of power between the upper class and the proletariat. "For the addition of the middle class turns the scale, and prevents either of the extremes from being dominant." Furthermore, "the portion of the state which desires the permanence of the constitution ought to be stronger than that which desires the reverse," and the middle class always swells this element, even when it does not constitute it. Without such a middle, arbitrating factor, oligarchical legislators are always trying to get round the people by offering them the shadow of power without the substance. And democratic legislators "have counter-devices" of the same sort.⁵⁷

Generally speaking, in the well-balanced state the government should be confined to those who carry arms, the property qualification for citizenship should be such that the citizen class exceeds the non-citizens, and the poorer class excluded from the franchise should be justly and humanely treated. For "even if they have no share in office, the poor, provided only they are not outraged or deprived of their property, will be quiet enough." To a state of this sort Aristotle applies the name "polity."⁵⁸

There follows a discussion of the various forms of the legislative, executive, and judicial branches under different systems of government.⁵⁹ Into this we have not the time to enter. But the fact that it is realistic in tone, and that it prescribes relatively to the needs of different constitutions without making invidious distinctions between them, helps introduce us to Book VI, which Aristotle devotes to patching up things as they are and giving them a new lease of life. After all, he might have

⁵⁵ IV, 4, 1291b, 15-6, 1293a, 34.

⁵⁶ IV, 9.

⁵⁷ IV, 11-13, 1297a, 35.

⁵⁸ IV, 13, 1297a, 35-1297b, 34.

⁵⁹ IV, 14-16.

felt, polity and a prosperous middle class holding the balance of power existed, like Plato's commonwealth, only in heaven. The governments by which he was confronted were out-and-out oligarchies or democracies. It might take a radical operation to cure them, but as they stood they could be rendered healthier and more comfortable by merely palliative measures.

If then we are to have democracies, we must, as Aristotle points out, accept for better or worse the idea of equality, the rule of the people, laws founded on the will of the majority, and the consequent disputes between the majority and the minority as to what is right and just for all alike.⁶⁰ But government on these principles may, he thinks, work not so badly with an agricultural or a pastoral people. For such a people is busy and contented with its pursuits, cares little for holding office, is not jealous of its officers, and, provided it retains the power of deliberating in assembly and selecting the magistrates and calling them to account, is generally willing to let the direction of the state slip into the hands of the more able. Thus everybody is satisfied and happy. "The good and the notables will not be governed by men who are their inferiors, and the persons selected will rule justly because others will call them to account." But, once let the inferior classes insist on removing the power from the hands of those best fitted to govern and on exercising it themselves, and the trouble begins. In that case we get class-hatred, and a rising resentment of the upper strata against the lower that may end in revolution.⁶¹

The legislator, then, will find it far less difficult to establish a democracy than to devise means for preserving it once it is set up. If a democracy is to last it must refrain from attacking its eminent men and from confiscating the property of the rich. Nor should surplus revenues be given as largess to the poor. "Such help is like water poured into a leaky cask," since "the poor are always receiving, and always wanting more and more." On the other hand, since "extreme poverty lowers the character of the democracy," surplus wealth may be used to set the poor up in little farms or in enabling them to "make a beginning in trade or husbandry." Moreover, "it

⁶⁰ VI, 2.

⁶¹ VI, 4.

is also worthy of a generous and sensible nobility to divide the poor amongst them, and give them the means of going to work.”⁶² Measures like these are good preventive medicine, and the worse, constitutionally, the sort of democracy one is trying to keep alive, the more necessary they will be.

The oligarchic, like the democratic disease, is of varying severity. In its milder form, the minority governs according to law and is well advised to have two standards of qualification, one for the higher, the other for “the humbler yet indispensable offices,” and to see that the citizens exceed in strength the non-citizens. The most virulent and precarious type presents us with a small clique governing tyrannically. This answers “to the extreme democracy, which being the worst, requires vigilance in proportion to its badness.” To preserve an oligarchy, a strong, heavily armed force, preferably cavalry, is necessary, “for this service is better suited to the rich than to the poor.”

To raise a large body of light-armed troops or a big naval contingent from the masses is dangerous, since these forces will be democratic in spirit and likely to turn against the governing class. The higher offices should be made so expensive that the people will not aspire to them, and the rich should keep the public entertained by magnificent spectacles, and should decorate the city with “votive offerings and buildings” to serve as “memorials of their munificence,” and to impress upon the people the desirability of the existing government. Mean and miserly oligarchies, which, Aristotle complains, were the fashion of his own times, are no better than so many petty democracies.⁶³

The rest of Book VI is given to an enumeration and description of the various offices necessary to the government of a state. Into this we need not follow Aristotle, except in so far as he points out that even in democracies the aristocratic and the oligarchic factors also appear, in the shape of the chief magistrates and of a “senate” often entrusted with “both the introduction and the ratification of measures” and with presiding over the assembly.

⁶² VI, 5.

⁶³ VI, 6-7.

Finally, Aristotle turns to an analysis of the malady that constantly threatens every form of government—revolution. The causes of revolution are manifold and often trivial. The desire for equality or for superiority, avarice, insolence, fear, disproportion among the classes composing the state, too great an immigration of foreigners—all may precipitate a crisis. And the slightest of disturbances may sometimes lead to fatal results.⁶⁴ In democracies, revolutions “are generally caused by the intemperance of the demagogues,” who, to curry favor with the people, threaten the rich in one way or another, and force them to combine in self-protection and overturn the popular government. Or, if the demagogue happens to be a general, he can make himself tyrant without much difficulty.⁶⁵ Still, “democracy appears to be safer and less liable to revolution than oligarchy. For in oligarchies there is the double danger of the oligarchs falling out among themselves and also with the people; but in democracies there is only the danger of a quarrel with the oligarchs. No dissension worth mentioning arises among the people themselves.”⁶⁶

After indicating these two causes of oligarchic revolution—the oppression of the people by the governing class, which is likely to end in a popular uprising and the establishment of a democracy, and faction within the governing class itself, which frequently inspires some one oligarch to espouse the cause of the people and to become a demagogue and eventually a tyrant⁶⁷—Aristotle turns to the dangers threatening aristocracy and constitutional government. Here he finds once more a disposition of the many to rebel against the few, however good, and also the temptation that may beset some outstanding member of the aristocracy to seize the power and reign alone. Again, aristocracies tend to become grasping and plutocratic, and thus to expose themselves to the ill-will to which oligarchies are subject. Or there may be a real defect and “deviation from justice in the constitution” of the polity or aristocracy, such as “the ill-mingling of the two elements

⁶⁴ V, 1-4.

⁶⁵ V, 5.

⁶⁶ V, 1, 1302a, 9-14.

⁶⁷ V, 6.

democracy and oligarchy," with an undue proportion of one element over the other.⁶⁸

To guard against revolution, "there is nothing which should be more jealously maintained than the spirit of obedience to law, more especially in small matters; for transgression creeps in unperceived and at last ruins the state, just as the constant recurrence of small expenses in time eats up a fortune." Again, political devices such as are used so often by both oligarchic and democratic leaders to deceive the people should not be employed. And the governing class should adopt every means to preserve internal harmony and keep on good terms with the governed. To this end it should be fair to all, never wronging "the ambitious in matters of honor, or the common people in a matter of money," but ready to recognize and promote worth and ability wherever it finds it. Furthermore, its favors should be moderate and long-drawn-out rather than short and violent, "for men are easily spoilt; not every one can bear prosperity." Too great a concentration of power and wealth in a few hands should be avoided. "Above all, every state should be so administered and so regulated by law that its magistrates cannot possibly make money." The people do not mind not holding office, but they are irritated at the thought "that their rulers are stealing the public money." Neither do the rich like to feel that they are being bled for the benefit of the masses. Hence, in democracies they "should be spared; not only should their property not be divided, but their incomes also, which in some states are taken from them imperceptibly, should be protected." To ensure fairness and honesty, the state finances must be scrupulously administered.

Finally, it goes without saying that, whatever the form of government, its high officials should possess loyalty to the constitution under which they live and a sense of justice proper to it, as well as virtue and political ability. If one has to choose between virtue and ability, skill is preferable to virtue where military commanders are concerned, virtue to ability when it is a question of civil offices of trust. The majority of the citizens, too, must be loyal to the established government. In a

⁶⁸ V, 7.

democracy, however, the successful demagogue would do well to placate the rich instead of quarrelling with them, just as the clever oligarch should make himself out the people's friend. Above all, the system of education should be such as to inculcate respect for the system in force and to keep the upholders of that system hardy and prepared. In an oligarchy, for example, it is suicidal to bring the children of the rich up in luxury, and at the same time to toughen the offspring of the poor by exercise and toil. So, too, in a democracy it is fatal to educate the masses to a false idea of freedom and make them feel that discipline and obedience to law are slavery.⁶⁹

Kings, who reign with the consent of the governed, are seldom destroyed by external causes. They come to grief rather through quarrels in the royal family, or by an assumption of tyrannical rule by the monarch, especially if he behaves like a despot when he has not the despot's power. "For there is an end to the king when his subjects do not want him, but the tyrant lasts, whether they like him or not."⁷⁰ Tyranny has all the vices of both an oligarchy and a democracy. Its end is wealth. Its method is to "distrust the people . . . and deprive them of their arms." But like democracy it wars also upon the notables and destroys them secretly or openly. The insults it heaps upon the upper classes and its confiscation of their property drive them to rebellion. Everywhere it breeds fear and hatred, and contempt as well, if the tyrant is soft and luxurious. Then again, the tyrant is a tempting mark for a man who wishes to gain notoriety by some startling deed. "There are men who will not risk their lives in the hope of gains and honors however great, but who nevertheless regard the killing of a tyrant simply as an extraordinary action which will make them famous and honorable in the world; they wish to acquire, not a kingdom, but a name."⁷¹

The prescription for keeping a king well is very simple. "Royalty is preserved by the limitation of its powers. The more restricted the functions of kings, the longer their power will last unimpaired; for then they are more moderate and not

⁶⁹ V, 8, 9.

⁷⁰ V, 10, 1312*b*, 37 ff.

⁷¹ V, 10, 1311*a*, 9-11, 1313*a*, 17.

so despotic in their ways; and they are less envied by their subjects." That some old kingships are still in existence is due, Aristotle feels, to their adoption of this limited character. The tyrant, however, is a more complicated case. To stave off revolution he may adopt either of two diametrically opposed treatments. On the one hand, he may play the heavy tyrant. If he follows that method, he must lop off the heads of all men of spirit; prohibit clubs, assemblies, education, discussion, and everything "which is likely to inspire either courage or confidence among his subjects"; establish an elaborate system of espionage; "sow quarrels among the citizens"; and embroil friends with friends, "the people with the notables, and the rich with one another." Also he should impoverish his subjects "and by keeping them hard at work, guard against conspiracy." A foreign war, too, helps at a pinch, as the citizens are thus kept busy and need the despot as a leader. All in all, this drastic form of treatment resolves itself into three things—sowing distrust among subjects, taking away their power, and humbling them.⁷²

On the other hand, the tyrant may avert rebellion and overthrow not so much by force as by guile. He may give the appearance of governing as a constitutional king, taking care, however, to keep sufficient power to rule his subjects. In that case, he must "pretend a care of the public revenues" and not let the people "see their hard-won earnings snatched from them and lavished on courtesans and strangers and artists." He must keep accounts, levy taxes, ostensibly at any rate, only for state purposes, and pretend that the funds in his charge really belong to the public and that he is only the treasurer and guardian of them. His manners should be not harsh but dignified, and he should be reasonably virtuous, "or at any rate should not parade his vices to the world." But "whatever virtues he may neglect, at least he should maintain the character of a great soldier and produce the impression that he is one." Also, it is a good plan to seem devoutly though not foolishly religious. Nor should he neglect to "honor men of merit and make them think that they would not be held in more honor by

⁷² V, 11, 1313a, 18-1314a, 29.

the citizens if they had a free government." Punishments of all sorts, however, should seem to come not from him but from the courts. Above all, he should abstain from outraging or insulting people by offenses against their property or person, since revenge at a real or fancied slight is one of the most common and virulent causes of assassination.⁷³

Such are the two ways of being a successful tyrant. They are set forth gravely, impartially, and dispassionately, and the despot is left free to choose between them. At the same time, Aristotle points out, tyranny and oligarchy are in the nature of things the shortest-lived forms of government. The book ends with a criticism of Plato's cyclic changes, and of the reasons assigned in the *Republic* for the progressive degeneration of the state.

We turn back now to Book I, which, as we have already said, is regarded by some critics as a kind of addendum calculated to show the naturalistic basis of the state and of social institutions. The primitive human unit, Aristotle tells us, is the family, which springs from the fact that men reproduce sexually and exist as male and female. This first association is instinctive not deliberate. Different degrees of ability are also innate and fundamental, and give rise to the equally natural distinction between master and slave and to man's appropriation, not only of other persons, but of animals and property to his uses. These adjuncts are also part of the family, which may now be described as "the association established by nature for the supply of men's everyday wants." Next, "when several families are united and the association aims at something more than the supply of daily needs, the first society to be formed is the village." And finally, "when several villages are united in a single complete community, large enough to be nearly or quite self-sufficing, the state comes into existence, originating in the bare needs of life, and continuing in existence for the sake of the good life." But "if the earlier forms of society are natural, so is the state, for it is the end of them, and the nature of a thing is its end. . . . Hence it is evident that the state is a creation of nature and that man is by nature a

⁷³ V, 11, 1314a, 29-12, 1316b, 27.

political animal." Indeed, he "is more of a political animal than bees or any other gregarious animal," since his native power of speech enables him to make sounds that are not, as in other creatures, mere cries of pleasure and pain, but signify and communicate the normal values upon which the social structure rests.

Plainly, then, seeing that each human individual is a political animal and naturally part of a social whole, separated from which he is no more self-sufficient and can no more survive than the hand or the foot without the body, "the state is by nature prior to the family and the individual." Only beasts or Gods can live without society; the character of man demands that he attain his perfection in communal life. In his social setting he is the best of animals, but "when separated from law and justice he is the worst of all . . . the most unholy and the most savage . . . and the most full of lust and gluttony."⁷⁴

The state, however, is not merely natural and instinctive. It engages man's higher faculties of reason and morality and is deliberately developed with a view to procuring the best and happiest life. It rests not only upon the gregarious nature of human beings but upon a conscious purpose to attain a good.⁷⁵ "A social instinct is implanted in all men by nature, and yet he who first founded the state was the greatest of benefactors."⁷⁶

Further discussion of the state, Aristotle feels, may well be prefaced by a detailed study of the family, since "the state is made up of households." The art of managing a household is politics in miniature, and in the family the origins and the naturalness of social institutions are seen with great simplicity and clearness. Thus the family, besides organizing sexual relations, also exhibits the fundamental character of property and of slavery. The family is not merely man and wife, parents and children; it is belongings, including other human beings in a servile capacity. Slavery is not a violation of nature, as some contend. Men are not born free and equal; "from the

⁷⁴ I, 2.

⁷⁵ I, 1, 1252a, 1-5.

⁷⁶ *Ibid.*, 1253a, 29-30.

hour of their birth, some are marked out for subjection, others for rule." Everywhere "a distinction between the ruling and the subject element comes to light," not only in living creatures but in animate objects. "It originates in the constitution of the universe." It is seen in the dominance of the soul over the body, of reason over the passions and the appetites, of human beings over animals, of man over woman.⁷⁷

Still, the legal institution of slavery as it is developed in the state may not follow the lines laid down by nature, as, for example, when a conquered population is enslaved wholesale by the victors. Here the opponents of slavery are right. Freemen by nature ought not to be slaves. Indeed, they cannot be so really, whatever the fortune of war or the legal situation may be, since "no one is a slave who is unworthy to be a slave." The only true and permissible slavery is founded on moral and natural considerations.⁷⁸

Granted these considerations, it is right that those who are naturally slaves should receive a training suitable to their servile destiny and occupation—just, we might say, as domestic animals are trained for their special uses. Finally, it will be observed that the inborn distinctions which render slavery natural are also those which justify absolute monarchy.⁷⁹

As with slavery, so with property. It is natural for the human animal to hunt, to fish, to till the soil, to lay up sustenance. "Property, in the sense of a bare livelihood, seems to be given by nature herself to all, both when they are first born (in the form of mother's milk), and when they are grown up." The development of society superadds to this primitive kind of property the highly complicated economic life of the modern state—with its exchange, its barter, its retail trade, its money, its banking, its lending, and its breeding money from money through interest. Here, as in the case of slavery, Aristotle draws a line between the natural and the artificial and conventional, and finds much to deplore in the economic system of his time. Big business merely for the sake of business, getting rich just in order to get rich, both exceeds the natural bases and

⁷⁷ I, 5.

⁷⁸ I, 6.

⁷⁹ I, 7.

limits of property and thwarts the natural end of the state, which is virtue and happiness. And "of all modes of getting wealth," he says, that of putting money out to interest "is the most unnatural." For "money was intended to be used in exchange but not to increase at interest."⁸⁰

Just as the family relation of master and slave is the prototype of absolute monarchy in the state, so that of father to child underlies the political institution of constitutional kingship, and that of husband to wife the form of government known as constitutionalism. The "constitutional" character of the two latter relations rests upon the fact that the wife and child are free beings, endowed with deliberation and choice, though in a lesser degree than the husband. Therefore, in spite of their dependent place, they share in the moral excellence and the happiness for the sake of which the state exists, and are to be regarded as among the ends, not the means, of political life. But slaves have no such status. Though they are rational and moral beings, they have no will or choice of their own. Politically speaking, then, they are wealth, and like other wealth are to be treated as means to the excellence and virtue of their masters.⁸¹

All in all, then, Aristotle has shown to his own satisfaction that the state is ordained by nature, that institutions like the family and property are part and parcel of the human organism, and that the various forms of government all rest upon and express primitive and instinctive relationships. With this assurance we may take leave of his *Politics*, and pass on to our final chapter—his theory of poetry and the fine arts.

⁸⁰ I, 8-10.

⁸¹ I, 12-13.

CHAPTER XI

ARISTOTLE'S RHETORIC AND POETICS

I

ATHENIAN society was so constituted that every citizen had to be both his own congressman and lawyer, and this situation gave to the study of rhetoric, or the art of getting on in the assembly and the lawcourts, a place at Athens similar to that enjoyed by economics in the American scheme of higher education. The contempt Plato felt for the subject, and his frequent invective against it as the art of worldly success at any price, testify to its popularity. Aristotle himself had no high opinion of its ideals and methods, but he treats it in the spirit of his discussion of current politics, medically, not morally, with perfect detachment, although not without a quiet malice. Rhetoric, he tells us, is the "faculty of observing in any given case the means of persuasion."¹ The rhetorical artist is one who has the power so to impress his own personality upon his audience, so to stir their emotions, and so to manipulate his language that whatever he says will seem credible to them and win their assent.² Whether he uses this power in the interests of truth or falsehood, of right or wrong, makes no difference. Rhetoric is good or bad rhetoric according as it wins its case. Aristotle's business was not with ends, but with the ways and means best calculated to attain them, whatever they might be. His study of them resolves itself, quite properly, into an essay on prose style, or at least, on the style of such prose as enters into exhortatory and persuasive eloquence.

Reasoning, or at any rate the semblance of reasoning, must play an important part in oratory. But where cold logic will work, oratory is unnecessary. The object of the rhetorician is not to make evident the self-evident, but to make the merely

¹ *Rhet.*, I, 1, 1135b, 26.

² I, 2, 1356a, 1-21.

probable appear certain. He will, then, drive his points home by suggestive example instead of true induction, and by series of propositions in which the probability of the consequent is irresistibly insinuated by the antecedent rather than by hard and fast syllogisms in which the conclusion follows of necessity from the premises.³ Moreover, these examples and quasi-syllogisms must be varied to suit the personality of the individual one desires to persuade, or the character of the audience one wishes to sway, as, for instance, the courts, or the assembly, or the crowd on some great ceremonial occasion. But in any case the successful orator must be thoroughly acquainted with his subject, with the relative values attributed by his audience to the various phases of life, and with the vulgar meanings of such appealing terms as wealth, honor, fame, happiness, good, bad, and the like. Knowledge of this sort is particularly necessary for the politician, and for what we might call the ordinary public speaker, whose chief business is to praise themselves and blame their adversaries effectually.⁴

Aristotle next turns to pleading in the lawcourts. The good lawyer must be acquainted with the motives and the psychology of the wrong-doer, the conditions that make for successful crime, and the kind of person who is apt to be the victim.⁵ Then, too, he must know his law, both written and unwritten, in order to appeal from the one to the other, as best suits his case. He must be expert in handling evidence, and in minimizing or exaggerating the value of the testimony of witnesses, according as it is unfavorable or favorable to him; in discrediting adverse evidence obtained under torture, or as we might say to-day, by third-degree methods; in implying perjury in his opponents, and impressing the judges with his own respect for the sanctity of an oath; and in increasing or diminishing the apparent importance of a contract, when civil rather than criminal cases are concerned.⁶ Ways and means of this sort are obviously non-technical. Their eloquence is not that of the orator, but of the facts discovered or invented by him. But

³ I, 2, 1356a, 21-1358a, 35.

⁵ I, 10-14.

⁴ I, 3-9.

⁶ I, 15.

the proper accenting of this non-technical material is part and parcel of the rhetorician's art.⁷

Since oratory, to whomsoever addressed, is primarily an appeal to the *emotions* rather than the reason, Aristotle now proceeds to define and catalogue them. In general they may be described as "all those feelings that so change men as to affect their judgments, and that are also attended by pleasure and pain."⁸ The primary appeal that an orator should make to his audience is that of his own pleasing personality. He must take care to impress it as a man of common sense, of good moral character, and of good will.⁹ But in order to engage its sympathies and play upon its feelings, he must understand the nature of the various emotions, and how to excite them. He must be expert both in stirring up anger and in turning away wrath.¹⁰ He must be able to instil friendliness or hatred;¹¹ to work upon the fears of his listeners, or to inspire them with confidence; to make them feel shame or shamelessness;¹² to impress them with his own kindness and the unkindness of his adversaries; to appeal to their pity or to excite their indignation, their envy, or their spirit of emulation.¹³ Needless to say the orator will apply these various excitants, not with any respect to the merits of his case or cause, but simply to ensure its victory.

In evoking the emotions and affecting the judgment of his hearers by means of them, the rhetorician must, of course, take into account the different degrees of sensitiveness to different sorts of appeal that come from age. The old do not respond to the same stimulants as the young. Their outlook on life is different. So, too, the reactions of maturity are those neither of old age or youth, but somewhere between. Again, gifts of fortune like good birth, wealth, power, and their opposites affect the character and create prejudices with which it is necessary to reckon.¹⁴

However, there are certain tricks and rules that may be ap-

⁷ I, 2, 1355b, 36; 15, 1375a, 21-24.

⁸ II, 1, 1378a, 20 ff.

⁹ *Ibid.*, 1378a, 6 ff.

¹⁰ II, 2-3.

¹¹ II, 4.

¹² II, 5-6.

¹³ II, 7-11.

¹⁴ II, 12-17.

plied to every sort and condition of audience. Thus, general rules may be laid down for arguing plausibly the possibility or impossibility of one occurrence from that of another, and formulae for reconstructing the past in a credible and appealing manner can be worked out. So, too, predictions of the future must follow given lines, if they are to carry weight.¹⁵ All types of audience are susceptible also to the use of example, of the rhetorical syllogism, and of maxims. Examples may either be drawn from the past or be invented. They may assume the form of the parallel or of the parable. Parables are easier to invent than parallels are to find, and are more suitable for popular orations, but parallels have more political effect. Maxims correspond in a way to the premises of the syllogism; their application to the situation in question is like the conclusion. They must always pretend to be universally true, and they should seem to teach a moral lesson. They appeal especially to people of little intelligence who love to hear "the opinions which they hold themselves about particular cases" enunciated as if they were universal truths enshrining fundamental moral principles. The orator who skilfully chooses or invents maxims that express the beliefs and standards of his hearers gets a reputation for being "a man of sound moral character" and makes a correspondingly good impression.¹⁶

To string maxims together properly and to apply them in a telling manner is the gist of oratory. But in order to distort facts to his advantage the orator must first know them for what they really are. He must be acquainted with history, or law, or finance, before he can use them as a basis for argument. This is indispensable. There are, however, various ways of putting this knowledge to the rhetorician's own uses. Some of them, which Aristotle proceeds to enumerate at too great length for us to follow, are formally correct. That is, propositions are strung together coherently, and a suggestion is drawn from them acceptable to the audience. But in many cases, to gain his effect the orator has not even to go through this formality. He may carry the day by a *bon mot*, or a play upon

¹⁵ II, 18-19.

¹⁶ II, 20-21.

words, or even by the clever use of an out-and-out logical fallacy.

Naturally, the orator must also be ready to answer objections and refute the attacks of opponents. But when Greek thus meets Greek, the one employs the other's methods. A swelling array of plausibilities can be collapsed by the prick of a contrary doubt. Examples *pro* can be countered by examples *con*, or, if they are too numerous, can be sidetracked by the suggestion that they are beside the point. Uncomfortable facts can often be deprived of their sting by a *non sequitur*, or, if that is impossible, by casting suspicion on the reality of the fact itself. Of course, if we cannot get round the fact or dodge its impact, we might as well throw up the sponge.¹⁷

In the third book, Aristotle takes up the question of literary style. "It is not enough to know *what* we ought to say; we must also say it *as* we ought." The first question is, naturally, "how persuasion can be produced from the facts themselves." The second is how to set these facts out in language. A third would be the proper method of delivery; but this last, Aristotle points out, has hitherto been greatly neglected, important though it is among the appearances with which alone "the whole business of rhetoric is concerned."¹⁸

"Style to be good must be clear . . . and appropriate . . . Clearness is secured by using the words . . . that are current and ordinary." Appropriateness in prose style means the avoidance of "both meanness and undue elevation." The great thing is to be natural. "Naturalness is persuasive, artificiality is the contrary; for our hearers are prejudiced and think we have some design upon them, as if we were mixing their wines for them." It is bad taste to overdo the use of compound words, to employ unusual ones, or to indulge in "long, unreasonable, or frequent epithets," and unsuitable metaphors and similes. Language must correspond to its subject, reflect the mood of the speaker, and be true to his personal character. The rustic must not talk like the educated man, the man like the woman, the youth like the old man, and vice versa. "We must neither speak casually about weighty matters, nor solemnly about

¹⁷ II, 24.

¹⁸ III, 1, 1403b, 15-1404a, 2.

trivial ones." In describing outrage the language of anger should be employed; "the language of exaltation for a tale of glory," etc.¹⁹

Prose should be "neither metrical nor destitute of rhythm." But certain rhythmical effects should be sedulously avoided. Sentences should never end with a short syllable, which gives "no effect of finality." They "should break off with the long syllable," which is a kind of natural period.²⁰ Furthermore, prose should be "either free-running, with its parts united by nothing except the connecting words," or compact and "antithetical." "Free-running" prose is as a rule too indefinite, and "the end is never in sight." The compact style with its divisions into separated definite statements is preferable. These statements and their constituent parts should be neither too short nor too long, but compassable in a single breath. They may either be supplementary or antithetical to one another.²¹

Discourse should also sparkle with "lively and taking sayings. Their actual invention can only come through natural talent or long practice," but the means for producing the effect can be defined. "Both speech and reasoning are lively in proportion as they make us seize on a new idea promptly." This they do by the use of vivid, well-chosen antitheses, metaphors, and similes which actually "set the scene before our eyes." Generally speaking, words expressive of activity are best for "making our hearers *see* things." Besides this visualizing power, liveliness has also an element of surprise. "Because the hearer expected something different, his acquisition of the new idea impresses him all the more. His mind seems to say 'Yes, to be sure; I never thought of that.' The liveliness of epigrammatic remarks is due to the meaning not being just what the words say." So, too, with riddles and jokes. "A new idea is conveyed" and "the word which comes is not what the hearer imagined."²²

Different circumstances—written prose or spoken oratory, the assembly or the lawcourts—demand different styles. "The written style is the more finished; the spoken better admits of

¹⁹ III, 2-7.

²⁰ III, 8.

²¹ III, 8-9.

²² III, 10-11.

dramatic delivery." Again, speeches addressed to a large gathering should be less finished than those addressed to a law-court, or to a single judge.²³ But in any case, "a speech has two parts. You must state your case, and you must prove it." To do the one without the other leaves things in the air. The statement should also have an introduction which may be a declamation of praise or censure or a simple appeal to the audience. It should have "nothing to do with the speech itself." It merely has to do with "the weak-minded tendency of the hearer to listen to what is beside the point." In pleading before the courts, the introduction should be directed "to removing or exciting prejudice" and to ingratiating the lawyer with the judges. So, too, in political speeches it is well to begin by arousing or dispelling prejudice, or by making "the matter under discussion seem more or less important than before." Prejudice can be dissipated or excited in many ways. It can be dissipated by direct denial of its grounds, by counter-charges, or by some "hard-luck" or "good intentions" story; it can be excited by imputing the worse of two possible motives, or by obscuring a man's many good qualities with one that is bad.²⁴

Upon the introduction follows the statement of the subject. Here the narration should be so manipulated as to create an atmosphere favorable to your cause or case. Assume a moral tone. "Do not let your words seem inspired so much by intelligence . . . as by moral purpose." A display of intelligence shows nothing but good sense, but moral purpose is indicative of good character. Dwell particularly upon details expressive of the emotion you wish to have attributed to yourself or your opponent. "These details carry conviction: the audience take the truth of what they know as so much evidence of the truth of what they do not." Create immediately the right impression of yourself and of your adversary. Keep guaranteeing the truth of everything you say, and be ready with such explanations and particulars as the audience will expect.²⁵

Next comes the argument. In ceremonial speeches this will

²³ III, 12.

²⁵ III, 1b.

²⁴ III, 13-15.

consist largely in expatiating upon the nobility or usefulness of the subject under discussion. Proof is uncalled for in most cases. Political argument consists largely in discrediting your opponent's proposals as impracticable, unjust, useless, or unimportant. "Note any falsehoods about irrelevant matters—they will look like proofs that his other statements also are false." The difficulty with political argument is that it deals in "futures" alone; also that it "affords few chances for those leisurely digressions in which you may attack your adversary, talk about yourself, or work on your hearers' emotions." This latter disadvantage can, however, be offset by a judicious interspersing of well-timed attacks upon individual people or, in other words, of the *argumentum ad hominem*. Still, pleading in the lawcourts is much easier. There you are dealing with present fact, not with conjectures regarding the future. "Besides . . . you have a basis in the law; and once you have a starting point, you can prove anything with comparative ease."

Moreover, and this holds true of all oratory, where proofs give out, "fall back upon moral discourse: after all, it is more fitting for a good man to display himself as an honest fellow than as a subtle reasoner."²⁶

Refutation is part of the argument, not a separate division. The procedure of refutation will vary according as you are first or last on the programme, and according to the nature of the opposing arguments. Well-placed questions are very useful in tripping up your adversary. Often by means of them you can involve him in an absurdity, a self-contradiction, or an evasion. By the same token you must be ready to deal with them. Jests are also sometimes useful. Irony, however, is more suitable to a gentleman than buffoonery.

After the argument we have the epilogue. Its object should be to reinforce the feelings and prejudices, favorable and unfavorable, by arousing which you have determined the attitude of your audience towards yourself and your opponent. This you do by leaving as a last impression the feeling that you are a noble and truthful man, whereas your adversary is a rogue

²⁶ III, 17, 1417b, 21-1418b, 4.

and a liar, and that the facts supporting your side of the case are important, whereas those upon which your opponent relies are of no importance whatsoever. Again, you must rekindle the emotions of your hearers, and leave them once more aflame. Finally you "review what you have already said," summarize your arguments, praise yourself for having done what you set out to do, compare your frank and efficient handling of the case with that of your adversary, and end with a staccato, machine-gun fire of "I have done. You have heard me. The facts are before you. I ask for your judgment."²⁷

This and other excellent advice, amply illustrated by references to literature in general and to authors of the immediate past, Aristotle gives to the would-be successful lawyer, politician, and ceremonial orator. We cannot help feeling that he found considerable private amusement in his lectures on rhetoric. Nor do we wonder that they were so crowded of an afternoon that he could not walk about as he talked, but was forced to address his hearers sitting down.

II

As the *Rhetoric* deals with the construction and the form of persuasive prose, so the *Poetics* is devoted to a discussion of the style and structure of dramatic poetry. The first book, which treats of tragedy, with incidental remarks about comedy and the epic, has alone come down to us. The second, whose subject was comedy, has been lost. But short as the extant portion of the *Poetics* is, no work of Aristotle has been more influential in its field or provoked more discussion than the brief first book. It is still, so far as it goes, one of the authoritative treatises on aesthetics, and the canons it lays down dominated for centuries Continental European drama. It also throws an interesting light on Aristotle's attitude towards the function of the fine arts in general.

Poetry and most music, dancing, painting, and sculpture, we are told, all imitate nature in their several ways.²⁸ The

²⁷ III, 17, 1418b, 5-19.

²⁸ *Poet.*, I, 1. (It will be remembered that the choruses in the Greek drama sang their lines, and danced as they sang.)

means employed by dancing and music are rhythm alone and rhythm combined with harmony. Poetry uses rhythmic or metrical language, and tragedy and comedy avail themselves not only of verse but of harmony and rhythm, music and the dance, as well. These means, like the imitative essence of poetry, have their sources deep in human nature. Man is naturally endowed, not only with a sense of harmony and rhythm and metre, but with a capacity and love for imitation that is one of his advantages over the lower animals. He delights in imitating and in words of imitation, even if the subject imitated be in itself painful. Not only are his senses pleased, but his intellect is stimulated. The imitation suggests the original. He gathers "the meaning of things" from it. He learns, and learning is enjoyment. Out of the primitive representations and improvisations that expressed this native tendency to imitate by declaiming, dancing, and singing, poetry of all sorts arose.²⁹

But what is the "nature" that art imitates, and what do we really mean by imitation? Plato, we may remember, had insisted that art imitated the sensible world, and that its imitation was a mere transcript or copy. Hence the work of art was simply a copy of a copy—the sensible world being a reproduction of the Ideas—and was in the second remove from truth and reality. Aristotle's view is quite different. Art does not simply reflect the particular; it penetrates it and grasps and expresses aspects of it that are universal. Poetry, he tells us, is for this reason "something more philosophic and of graver import than history, since its statements are of the nature rather of universals, whereas those of history are singulars." Moreover, it describes not what has been—matters of fact—but rather what might, and, aesthetically speaking, ought to be.³⁰ It may even indulge in impossibilities, if these are more beautiful. Art, in a word, always idealizes, and the "artist ought to improve" on his model.³¹

²⁹ *Poet.*, I, 4-5.

³⁰ 9, 1451a, 37-1451b, 7. Cf. Butcher, *Aristotle's Theory of Poetry and Fine Art*, pp. 150 ff.

³¹ 25, 1461b, 9-15.

Again, imitation, even of the universal, is not for Aristotle mere bald restatement. It is rather a kind of divination, an insight into what Nature is trying to say with the matter at hand, and an ability to forestall her meaning and make her hidden and often stuttering purposes articulate.³² But, and here there is perhaps something in what Plato says, the artistic interpretation of Nature's meaning is given in terms, not primarily intellectual, but sensible and pictorial. It is not merely an account of what she is trying to say; it must also mimic her voice and re-echo the sound of her speech,³³ and do so in such a way as to caress the listening ear and seem beautiful to it.

Finally, Aristotle seeks to free imitation from the moralistic bondage to which Plato had subjected it.³⁴ Artistic activity and the impression produced upon others by its exercise are ends in themselves, so far as any single factor in the all-embracing end of human happiness in general can be regarded as self-justified, when considered in isolation from the others. Art for art's sake, we may feel Aristotle would have contended, is a sounder doctrine than virtue for virtue's sake. Art is not the servant of virtue, but of that wider good from its subservience to which virtue also, as he so bluntly tells us in the *Ethics*, gets its only justification. The relation between the two is not that of master and slave, as Plato would have had it, but of two servants of the same lord. Art does not have to go outside its own sphere to find the final standard by which its works are judged good or bad.³⁵ Its purpose is not moral edification, but, he says, to give pleasure—that very pleasure of which Plato was so afraid.³⁶

Nay more, to be justified, Art does not have to give even that "higher" enjoyment which is a positive and abiding element in the rational activities and essential happiness of man. At the production of such enjoyment the more serious and valuable works of art are, to be sure, aimed. But mere recreation and restful amusement, such as is afforded by a game or a pastime, is also a justifiable end of artistic endeavor, and a work

³² Cf. Butcher, *op. cit.*, *loc. cit.*

³³ Cf. Butcher, *op. cit.*, pp. 124 ff.

³⁴ Cf. Butcher, *op. cit.*, pp. 215 ff.

³⁵ Butcher, *op. cit.*, pp. 220 ff.

³⁶ *Poet.*, 4, 1448b, 4 ff.

of art that effects this, though it may not be of so "high" an order, is not therefore to be condemned. This point, it will be remembered, Aristotle brings out in the *Politics*.³⁷ But the distinction between "higher" and "lower," we should take care to note, does not involve any lugging in of moralistic standards. It rests solely on the difference between the pleasure accompanying rationalized and reflective activity and the pleasure we take in being diverted and relaxed from the serious business of life when we are fatigued. Since amusement and relaxation do not constitute happiness, but figure in it only incidentally,³⁸ the pleasure that attends them is less essential than that which comes from the effort of thinking about what we see, in which human nature finds its highest and most complete expression. But in itself it is innocent. No moral fault can be found with it. It is bad only when it is overemphasized. In short, both sorts of pleasure are good, and both have their place in a perfected and happy life.

What Aristotle is here trying to do is, apparently, to reach purely logical and aesthetic standards of judgment that shall be free from a moral bias. The goodness or badness of a work of art is to be determined by such tests alone. At least these are the only criteria that Aristotle uses in his own criticisms of the drama. For that matter, the moralistic demand that a play shall always "teach a lesson" by exhibiting vice punished and virtue triumphant, he explicitly ridicules as the demand of a second-rate audience. The pleasure taken in these edifying endings is not pleasure of the aesthetically "higher" sort. To the enlightened, liberal, and reflective mind such endings seem only comic, and afford merely the "lower" recreational pleasure that comedy, along with other sports and pastimes, gives.³⁹

In dealing with the material suitable, in his judgment, for artistic treatment, Aristotle shows the same tendency. The goodness or badness of a work of art depends, to be sure, upon the goodness or badness of the subject portrayed, and his con-

³⁷ Cf. *supra*, pp. 280-281.

³⁸ Cf. *supra*, p. 200.

³⁹ *Poet.*, 13, 1453a, 30 ff. Cf. Butcher, *op. cit.*, pp. 198 ff.

ception of what makes the subject suitable or unsuitable is undoubtedly clouded by irrelevant, moralistic considerations. Nevertheless, a purely aesthetic standard seems to be slowly coming to light. Both painting and poetry for example are said to be better or worse according as they represent men superior, equal, or inferior to humanity as it is.⁴⁰ This scale of measurement is in part moral, but not wholly so. When Aristotle speaks of inferior art as representing characters worse than ourselves, he would seem to have in mind—or at any rate, at the back of his mind—the caricaturing of men as they are. By “men worse than the average” he tells us he means “worse not as regards any and every sort of fault” but only as more ridiculous and more prone to cause laughter. Only when the deformity is so presented as to pain or harm others, does the treatment of it become bad art.⁴¹ So, too, when he talks of artists who merely imitate the average, his meaning goes beyond the moral. He is apparently trying to differentiate an unselective, photographic realism from the distortion of the actual scene in the interests of the ridiculous and the amusing, on the one hand, and an “idealistic” rearrangement of it, to suit our more “serious” aesthetic taste, on the other.

Again, when we come to “idealistic” art, its advantage is not wholly ethical. The superiority of its material and of its manipulation is due to the presence of other factors, emotional and intellectual. Nay more, within the sphere of ethics, plain, homely virtue is not sufficient. Only the virtue that can also be made beautiful and striking is fit for the artist to work with. And unless his art succeeds in imparting interest and dramatic and aesthetic appeal to moral goodness, his art is not idealistic. If his “imitation” leaves righteousness as dull as it frequently is in reality, he is a mere photographer, a realist. For that matter, Aristotle goes so far as to hold that an ethically inferior subject, preserved in all its typical inferiority, may be ennobled by artistic treatment, as, for example, Achilles’ undesirable traits were idealized by Homer unchanged.⁴² Indeed, of subject matter distinctly objectionable from the moralistic,

⁴⁰ *Poet.*, 2.

⁴¹ 5, 1449a, 31 ff.

⁴² 15, 1454b, 11 ff.

or even the religious point of view, he is perfectly tolerant, at any rate when it is imbedded in the "classics." The immoral stories told of the Gods and the heroes, over which Plato waxed so indignant and so censorious, "may," he says, "be as wrong as Xenophanes thinks, neither true nor the better thing to say; but they are certainly in accordance with opinion."⁴³ They are part of the body of accepted thought. It is this same wise, Aristotelian attitude that to-day permits an unexpurgated Bible to be sold openly in bookshops and to be sent everywhere by post.

All in all, then, in dealing with these three strata of material—humanity at its worst, its average, and its best—as in treating of the "higher" and "lower" subjective effects of art, Aristotle gives the impression of one attempting to work out an independent criterion of aesthetic values. He has begun at least to see that life as it ought and ought not to be for art is not necessarily life as it ought and ought not to be for morals. "Idealization" is not a moral but an artistic improvement upon the real. To present men as better than they are is essentially to present them as more interesting. To present them as worse is to present them as uglier and more ridiculous, but, for that very reason, as more amusing. And amusement, we remember, though not *the* good is a *good*, and an important and necessary factor in happiness.

It is true, of course, that Aristotle does not see his way any too clearly to this conclusion. He still insists, for example, that the artist must not depict moral evil unless it is indispensable to the effect of the composition as a whole. There is no possible excuse, he tells us, for introducing "depravity of character where it is not necessary and no use is made of it."⁴⁴ In any case it must be incidental and confined to the minor rôles.⁴⁵ That a study of viciousness for its own sake might have a profound dramatic and aesthetic value and justification Aristotle would not have allowed. *Splendida vitia* were beyond his dramatic ken. An evil protagonist, like Macbeth or Satan,

⁴³ *Poet.*, 25, 1460b, 36-1461a, 1.

⁴⁴ 25, 1461b, 19-21. *Cf.* 15, 1454a, 28-29.

⁴⁵ *Cf.* Ross, *op. cit.*, p. 279; Butcher, *op. cit.*, p. 227.

it has been pointed out, would have been incomprehensible to him.⁴⁶

The reasons for this faltering on Aristotle's part are perhaps not far to seek. There are grounds enough for it in the encumbrance of the moralistic atmosphere and terminology by which his attempt to think and to express himself was hampered and confused. All Greek art was traditionally concerned with a divine and heroic subject matter, and poetry especially was so associated with religion and ethics, and so replete with examples and lessons, that it was difficult to develop new standards to which the didactic and moralizing elements were irrelevant.⁴⁷ But admitting to the fullest Aristotle's failure to disentangle art from moralistic considerations, and leaving to one side the possible reasons for his lack of success, it still remains true, as one critic remarks, that the *Poetics* "marks the beginning of the deliverance from two mistakes which have over and over again marred aesthetic theory—the tendency to confuse aesthetic with moral judgments and the tendency to think of art as duplicative or photographic of reality. There is clearly implicit in Aristotle's words the recognition of beauty as good independent of material and moral interests alike, but he has not succeeded in working his way to a definite statement of its nature."⁴⁸

Even, however, if Aristotle had been able to work out his theory unhampered by moralistic influence, and had succeeded in setting aesthetics on its own feet, it is probably doubtful whether he would ever have granted the decree of absolute divorce between art and morality for which some modern students and practitioners of aesthetics have applied. For happiness, as we have seen, is a highly complicated thing interwoven of all human activities and satisfactions. Our interests do not ignore one another and develop in isolation, but are all pooled in a common, inclusive good. Although the immediate appeal of a situation may be to one side of human nature, its final seduction is of human nature as a whole, and by its rela-

⁴⁶ Cf. Ross, *op. cit.*, *loc. cit.*; Butcher, *op. cit.*, p. 234.

⁴⁷ Cf. Butcher, *op. cit.*, ch. V, pp. 215 ff.

⁴⁸ Ross, *op. cit.*, p. 290.

tion, not to the part, but to the whole, its real value has to be judged. Our sensitiveness, then, to the aesthetic aspects of life, and our capacity for the pleasure that it is the business of the artist to arouse, are sharpened by all our interests, moral, intellectual, and physical, as well as by the specifically aesthetic. The pure specialist in art, responsive only to beauty, is no more fitted to be a judge of good art than is the pure specialist in morals, responsive only to the claims of righteousness, to be a judge of sound and enlightened ethical standards. In his distrust of the expert as one-sided and short-sighted Aristotle is explicit. It is not the shipwright, but the pilot who is the better judge of the rudder, not the cook, but the guest at the feast who is the better qualified to tell a good dinner from a bad one.⁴⁹

This rejection of the expert as a competent judge may seem at first sight inconsistent with Aristotle's insistence that the difference between good and bad art is to be determined by aesthetic standards alone. But the inconsistency, if it exists, is not important. The higher court of appeal to which art may have to take its case is not any other single aspect of human nature, but the whole man, and the whole man sitting primarily not as a judge of the bearing of a work of art upon the problems of virtuous conduct, but as a judge of its aesthetic worth and its relation to beauty alone. To put it in terms of Aristotle's own metaphor, the pilot, who is better fitted than the shipwright to estimate the soundness of the rudder, is not just another carpenter, but the master of the entire ship; the guest, who knows better than the chef whether the dinner is good or not, is no fellow-cook or even a waiter at the table of life, but a *bon viveur* in the widest sense of the term. There is, then, in Aristotle's distrust of the pure aesthete as a competent judge of art no tendency to make the artist submit his work to the puritan for final approval. It is merely that an enlightened sense of beauty, like enlightened standards of right and wrong, must spring from a wider and better balanced idea of the good than the limited view of either the puritan or the aesthete can attain.

⁴⁹ *Politics*, III, 11, 1282a, 1-24.

In short, since the appeal of a work of art is to the whole man, the man who is to judge it must be whole. He must have more than the aesthetic window open upon the spectacle of existence. He must be an all-round individual, sensitive to all sides of life. But he must be more than that. After all, the common herd is not composed of aesthetes but of fairly all-round people. Yet no one would consider the general public a competent art critic. The final court of appeal is the educated man of the world who is not only open to all the influences of life, but by virtue of his education sees them all clearly and in proper focus. A person's taste in art is sound in proportion as he is cultivated, ripened, and mellow in all respects, including, of course, aesthetic sensitiveness. It is the pleasure taken, not by the vulgar herd, but by the "better public," the "free and educated" audience, as Aristotle calls it, that is the real test of good art as distinguished from bad.⁵⁰ But even on this point, we remember, Aristotle is liberal. It is better that the vulgar should have a vulgar art suited to their vulgar sense of beauty than that all art should be of so high an order as to pass over their heads and leave them without aesthetic satisfactions of any sort.⁵¹

So much for what we can venture concerning Aristotle's philosophy of art in general. Poetry, after all, is the subject of the *Poetics*, and to that we now return. The subject matter of poetry, Aristotle tells us, is human character and action considered in their universal aspects. Hence it is the most profound and the most inclusive of all the fine arts. Of all forms of poetry, again, tragedy is the finest. It possesses all the virtues of epic poetry and may indeed even appropriate its metre, and to these qualities it adds the embellishments of music and spectacle, which the epic lacks. Moreover, it is more compact, and more unified, and it is more concentrated in its effect.⁵² An epic has "no fixed limit of time" to its narration, "whereas Tragedy endeavors to keep as far as pos-

⁵⁰ *Politics*, VIII, 7, 1342a, 18 ff. *Poet.*, 26, 1461b, 20 ff. Butcher, *op. cit.*, pp. 211, 226.

⁵¹ *Politics*, *loc. cit.*

⁵² *Poet.*, 4, 1449a, 1 ff., 5, 1449b, 9 ff., 26, 1461b, 26 ff.

sible within a single circuit of the sun, or something near that.”⁵³

Tragedy may be defined “as the imitation of an action that is serious and also, as having magnitude, complete in itself; in language with pleasurable accessories (such as song and dance) each one brought in separately (in verse only or in song) in the parts of the work; in a dramatic, not in a narrative form; with incidents arousing pity and fear, wherewith to accomplish its catharsis of such emotions.” This famous definition of tragedy has been the subject of endless interpretation and controversy. The particular storm-centres are two. The first lies in the phrase “complete in itself,” which, taken in connection with the limitation “to a single circuit of the sun,” has given rise to the doctrine of the three dramatic unities of action, time, and place; the second, in the last sentence which gives as the aim and justification of tragedy the arousing and the “catharsis” of the emotions of pity and terror.

The question of the three unities has perhaps become to-day somewhat academic, though it was alive and burning with the French and Italian tragedians of the Sixteenth and Seventeenth Centuries, and gave rise at that time to a rule of dramatic construction which was rigidly adhered to, particularly by the French. Indeed, some of the severest Continental criticism of Shakespeare was directed against his failure to observe the unities of time and place. But the infelicities that resulted from trying, as the French did, to confine the enactment of any and every plot to a single spot and a single round of the clock, were such as to rob this criticism of its sting, and, for that matter, to suggest that Aristotle himself could never have held the doctrine. This suggestion is borne out by the text of the *Poetics*, in which, so modern critics say, we find only an insistence on unity of action or plot. The unity of time and of the “single circuit of the sun”—which means that the action of a tragedy should be completed within the span of a day—was, we are told, merely a statement of usual but by no means invariable Greek practice. It was a kind of counsel of perfection, or at least a warning that the time consumed in the action

⁵³ *Poet.*, 5, 1449b, 9 ff.

should never be dragged out, and should always contribute to the general effect of wholeness and compactness of plot. As for the unity of place, or the rule that the whole action must take place on the same spot, this, too, was a general though not invariable theatrical convention among the Greeks. But there is no mention of it by Aristotle himself, and it would seem to have been read into him by later critics as a corollary of the unity of time. All in all, the unities of time and place were probably comparatively minor matters in Aristotle's eyes, and, instead of being regarded as absolute, they were to be applied only to the extent and in the manner required by the all-dominating unity of action.⁵⁴

What, then, are the formal requisites for unity of action, or, in other words, for a good plot? Obviously a well-constructed story "cannot either begin or end at any point one likes." The beginning must be "a fresh start," and "not itself necessarily after anything else," but it must also be such as to need "something else after it" or, in other words, as to require further developments. These developments must depend upon the beginning, and also remain inconclusive in themselves. Finally, the end must be such as to appear the natural consequence of all that has gone before, and at the same time to entail no further results. In short, a good plot must tell all of a story that is whole and complete in itself.

The limits set upon its length are not those of the time required for the performance of the play in question. Concessions to the clock do "not fall within the theory of poetry." The only natural limit upon the magnitude of the plot is the power of the memory to take it in and to present it as a whole. Within this limit "the longer the story, consistently with its being comprehensible as a whole, the finer it is by reason of its magnitude."

Again a unified plot has to be selective. One hero does not make one story, nor is tragedy biography, however tragic. But of the mass of events, an infinity of them disconnected, that go to make up a man's life, only those must be chosen that can be threaded together so as to form a complete whole "with its

⁵⁴ Cf. Butcher, *op. cit.*, ch. VII, pp. 277 ff.

several incidents so closely connected that the transposal or withdrawal of any one of them will disjoin and dislocate the whole."⁵⁵ Nothing could be worse than a mere sequence of episodes that do not follow either necessarily or probably from one another.⁵⁶

Since tragedy is not biography, the poet need not stick to fact or even to the accredited form of the legend from which he draws his story. He is welcome to change and to invent, so long as his plot remains coherent and within the bounds of possibility. Possibility, however, is to be understood, not in the merely negative sense of what is not actually impossible, but as a positive display of necessity or probability in the working out of the action. The reason that most tragedians delve into the past and found their plots upon what is supposed to have really happened—as, for example, the events recorded by Homer—is that such events carry with them more conviction of possibility than the untested fancies of the poet as to what might happen. "Nevertheless, even in tragedy, there are some plays with but one or two known names in them, the rest being inventions; and there are some without a single known name . . . in which both incidents and names are of the poet's invention; and it is no less delightful on that account. So that one must not aim at a rigid adherence to the stories on which traditions are based."⁵⁷ That Aristotle should take the trouble to point this out may seem strange to us, steeped as we are in a literature so great a part of which is frankly fiction. But we should remember that the Greek convention was to turn to history or traditional myth for one's material—just as if it were the orthodox thing for our modern novelists to write only historical novels. In such circumstances a progressive and enlightened literary critic to-day might feel it incumbent upon him to urge writers to shake off this convention, strike out for themselves, and invent their own stories, if they had the inspiration and the ability to do so.

Finally a well-constructed tragic plot should contain factors of surprise and of coincidence so extraordinary that they

⁵⁵ *Poet.*, 8, 1451a, 30 ff.

⁵⁷ 9, 1451a, 37-1451b, 26.

⁵⁶ 1451b, 33 ff.

look like the hand of God. The pity and terror which it is the business of tragedy to evoke are most easily aroused by incidents that "occur unexpectedly and at the same time in consequence of one another; there is more of the marvellous in them than if they happened of themselves or by mere chance. Even matters of chance seem most marvellous if there is an appearance of design as it were in them; as for instance the statue of Milys at Argos killed the author of Milys' death by falling down on him when a looker-on at a public spectacle; for incidents like that we think to be not without a meaning. A Plot, therefore, of this sort is necessarily finer than others."⁵⁸

We pass now to the other great bone of contention—the question of the pity and terror that a tragedy must arouse and of the "catharsis" of these emotions which it must effect, if it is to be truly and distinctly tragic. Some commentators have suggested that the stirring of one of these feelings was sufficient in Aristotle's eyes to produce the sense of tragedy. But he would seem to insist upon the linking of the two emotions, at any rate if the full and highest tragic impression is to be secured.⁵⁹ If so, the reason is not far to seek. Pity without accompanying or preceding fear, like terror without consequent compassion, does not of itself sufficiently involve the spectator in the situation. Either emotion in isolation leaves him in a sense detached and an outsider.⁶⁰ To be struck with a sense of utter tragedy he must find some personal application in the calamity. He may, indeed, feel reasonably sure that the story and the fate of the tragic hero will not be his, but they must awaken him to the uncertain future that hangs over even the happiest present, and must rouse within him vague forebodings of what may be waiting in his path. He must be forced to cry, "There, or, if not there, by some other *via dolorosa*, but for the grace of God, go I."⁶¹

It is true that the terror he actually experiences is not primarily for himself, as some critics have maintained, but for the tragic hero about whom he sees the coils of destiny slowly tight-

⁵⁸ *Poet.*, 9, 1452a, 1-10.

⁵⁹ Butcher, *op. cit.*, pp. 263 ff.

⁶⁰ Butcher, *op. cit.*, *loc. cit.*

⁶¹ Cf. Ross, *op. cit.*, pp. 282-283.

ening.⁶² Otherwise he would find no pleasure in the spectacle but merely panic. Still, the sight of sufferings from which he was sure he was immune, or which did not suggest his own susceptibility to calamity of some sort, would, by its inability to arouse a secondary fear for himself, fail to produce the complete and essential tragic impression; just as looking on at the agonies of a disease from which he knew that he was already, or was like to be, the victim would evoke a selfish, pitiless fear equally destructive of the full tragic effect. Side by side with the fact that he may be involved must stand the fact that he is not as yet and will not necessarily be caught in the toils. Taken together the two facts arouse both pity and fear; but a fear not so great or so personal as to preclude sympathy, and a pity from which a feeling of personal danger and of consequent solidarity with the tragic hero cannot altogether be divorced.⁶³

But what does Aristotle mean by the term "catharsis," or "purgation"? In what does the purging of terror and pity consist? About this point there has been an enormous amount of discussion and division of opinion.⁶⁴ One school of interpretation with a long history behind it has derived the metaphor from the ceremonial rite of religious purification or "lustration," and has regarded the catharsis as essentially a moral process of refining the emotions in question. As to the nature of this "moralizing," various suggestions have been made, such as ennobling pity and fear, raising them to the sublime, rendering them disinterested and unselfish, converting them into virtuous habits of mind, and the like.⁶⁵ But all are agreed that the aim of tragedy, according to Aristotle, was to leave the spectator in a morally chastened condition of some sort.

This interpretation, however, is now for the most part discarded, and the metaphor is regarded as medical in origin, and the nature of the catharsis as purely psychological and aes-

⁶² Cf. Bywater, *op. cit.*, pp. 210 ff., note on 1452b, 32; Ross, *op. cit.*, *loc. cit.*

⁶³ Cf. Ross, *op. cit.*, *loc. cit.*; Bywater, *op. cit.*, *loc. cit.*

⁶⁴ Cf. Bywater, *op. cit.*, pp. 152 ff., note on 1449b, 27; Butcher, *op. cit.*, pp. 243 ff.

⁶⁵ Cf. Bywater, *op. cit.*, *loc. cit.*

thetic. By purgation, we are told, Aristotle means here, as elsewhere, merely the removal, attended with pleasurable relief, of a disturbing element or product which, if it were not expelled, would cause harm. Moreover, even if the text would bear an ethical twist, the moral interpretation is incompatible with Aristotle's obvious view that it is not the business of the theatre to be a school of morality, or of the poet to be a teacher of ethics. Nor could the tragedian or the theatre be successful at such a business, even if it were theirs, since the general public did not go to the theatre often enough for its morals to be either permanently harmed or benefited by what it saw.⁶⁶ Of this fact, which our modern censors of the stage in the interests of morality sometimes forget, Aristotle was quite well aware.

The truth is, the argument continues, Aristotle was attacking the Platonic theory that grief is an unmixed evil detrimental to the operation of reason and self-control, and that therefore all artistic representations tending to arouse it, be they musical, poetic, or dramatic, must be suppressed. He was showing that on the contrary such representations might purge pity and fear of their disquieting and painful features, and by relieving them of their burden might even make them positive sources of harmless aesthetic pleasure and thus objects of enjoyment and elements in happiness, and, as such, goods. Their use in these circumstances would naturally be occasional and their effect would be temporary, like that of a physical purge. Plutarch, it is pointed out, noted the somewhat similar cathartic effect of a wake which by exciting the mourners' sorrow helps to work off and allay their grief. Such purely purgative and therapeutic results—without any reference to the moralities—of music and dancing and other psychological excitants were remarked by other later classical writers. That Aristotle claimed no more than this for tragedy was in modern times first advanced during the Renaissance. And since the middle of the last century the suggestion has been accepted by most Aristotelian scholars. We are not justified, then, in going beyond the sphere of aesthetics and trespassing upon that of morals in describing the process or the results of purgation.⁶⁷

⁶⁶ Cf. Bywater, *op. cit.*, *loc. cit.*

⁶⁷ Cf. Butcher, *op. cit.*, p. 269

But why and how does seeing a tragic drama performed at the theatre evacuate pity and terror of their painful elements and turn them into pleasurable emotions? Why should a spectacle whose avowed intent is to arouse the feelings in question also prove to be a cure for them? In what manner does this homeopathic remedy accomplish the relief? The answer would seem to be as follows. Aristotle feels that pity and fear are essentially varieties of pain, and therefore in their native state evil things.⁶⁸ Moreover, they are evils to which most human beings are continually subjected in their daily life. Nearly all men must live under a strain of constant anxiety for themselves, and experience an unremitting drain upon their natural sympathy for others. At the same time, we ought to suffer moderately from these disturbing emotions, for we should be inhuman if we did not do so. In the *Ethics* we are told that "to fear some things is even right and noble, and it is base not to fear them,"⁶⁹ and presumably we ought also to feel the pain at the sight "of an evident evil of a destructive or painful kind in the case of somebody who does not deserve it," in which, when the evil is "one which we might expect to happen to ourselves or some one of our friends," pity consists.⁷⁰

Still ethics is not aesthetics, and whatever causes pain is aesthetically bad. Therefore a tragedy which gave us no respite from the anxiety about ourselves and the unhappiness over others that, morally speaking, we ought to feel would be bad art, however salutary its chastening influence might be from the purely ethical point of view. The bitterness, then, must be removed from pity and terror before they can be considered aesthetically good. But this does not mean that the emotions themselves should be removed. The object of tragedy is not to make us temporarily reckless and callous. It is to *arouse* horror and compassion at the same time that it somehow alters pleasurably their relation to ourselves. Involved in this function of transvaluation there is also a further process of moderating these emotions to a mean degree. They are cumulative

⁶⁸ Cf. *Rhet.*, II, 5, 1382b, 21 ff. Butcher, *op. cit.*, pp. 255 ff.

⁶⁹ *Eth. Nic.*, III, 6, 1125a, 12.

⁷⁰ *Rhet.*, II, 8, 1385b, 13 ff.

poisons which, unless they are washed out at intervals by special treatment, remain unexcreted and accumulate far in excess of what we ought to feel. We tend to become over-anxious and over-apprehensive about ourselves, and too lush and sentimental in our pity for the woes of our neighbors. We exaggerate both the insecurity of our own lives and the injustice of our friends' misfortunes. As a preliminary, then, to making pleasurable what is ordinarily painful, tragedy must first reduce the excess of anxiety and compassion to the normal amount.

Now, when we assist at the performance of a tragedy we get, to be sure, an extra dose of pity and fear. But it is of a different and milder sort. The terror and compassion aroused are not for real people like ourselves and our fellows, but for non-existent and, it may be, entirely fictitious persons. Our emotions are thus transferred from ourselves to objects and situations in which we are not immediately concerned. We "take it out" on something else, just as we can work off a fit of anger pounding a pillow instead of the person who has enraged us. Moreover, since the objects and situations are presented with grandeur and in the light of the universal and the eternal, we are lifted out of ourselves in their presence. We tend to forget all that is petty and particular in our own woes, and our feelings are for the moment depersonalized. We have shifted our burden to the tragic hero and made him the scapegoat of our sorrows. Thus, not only is the excess of accumulated pity and terror discharged with a sense of pleasurable relief, but the normal amount, which we should ordinarily feel in a painful manner for ourselves and our friends, is replaced by fear and compassion at a situation that threatens us with no direct personal dangers, but at the same time seeks to remind us that, like every other human being, in the midst of life we are in death.

Here again, the pleasure we take in being reminded of this universal but tragic truth is perhaps one of relief and of having shifted the danger from the realm of fact to that of fiction and thus lifted it for the moment from ourselves. However that may be, there is no doubt that we like weeping at the death of the tragic hero, whereas we dislike weeping at the

funeral of a friend; though the tears are as salty and the sobs as heart-rending in the one case as in the other. Upon this dual capacity of fear and pity to be a pleasure, when felt for a fictitious or unrelated object, and a pain, when felt for one in which we are immediately concerned, depends the power of the tragic drama to remove their excess and transmute their value while preserving their substance intact.⁷¹

It has been pointed out that the emphasis Aristotle places upon the purging away of excess emotions is perhaps one-sided and misplaced. To-day at any rate, people do not suffer so much from too great an amount of fear and compassion as from a deficiency in these feelings. From this point of view the action of tragedy would be rather tonic than cathartic, and would consist in stimulating the emotions in question and in making the ordinarily careless and insensible spectator sensitive for the moment to new reaches of experience.⁷² At the same time, since he would not be personally threatened by what he saw, the transvaluation of the feelings would also occur, and pity and terror would be aroused in their pleasurable form. Hence the indifferent person, also, would like to have these emotions excited, and would derive an aesthetic enjoyment from their stimulation.

Again, it should perhaps be said, the excitement of the tragic sense has, besides its direct result of aesthetic pleasure, certain moral by-products. Certainly we are not demoralized in any way by the tragic spectacle. The pity and the fear that we feel for the hero are no less humane because we enjoy them. Indeed, if anything, they are accompanied by a state of mind more exalted than that in which they give pain. Terror and compassion are all the nobler, morally, for being purged of the disagreeable, personal element and turned into sources of aesthetic delight. From their temporary association with the universal they gain in breadth and insight, in tenderness and courage. We leave the theatre on a level of life morally as well as aesthetically higher than that on which we entered it,

⁷¹ For a discussion of the nature of "catharsis," cf. Butcher, *op. cit.*, ch. VI, pp. 240 ff.; Ross, *op. cit.*, pp. 284-285.

⁷² Cf. Ross, *op. cit.*, *loc. cit.*

and it takes a minute for us to get down to earth again. To be sure, as we have already said, it is not the business of the drama to produce this effect. It is the function of tragedy simply to remove the disquiet from pity and terror and to substitute aesthetic pleasure in its place. The tragedian can depart in peace if he has succeeded in making the horrible and the pitiful a thing of beauty. That the aesthetic enjoyment he induces of what is ordinarily painful happens to be also a frame of mind which the moralist would rate more highly is accidental so far as he is concerned. For him to regard the alliance as essential would turn him from an artist into a preacher.⁷³

There is also another thing that we should not forget. Though the goal of tragedy is the purely aesthetic one of making pleasurable a situation ordinarily painful, it cannot attain that goal unless it employs material of moral import. The rights and wrongs of the matter must not, indeed, be too evident, but a moral problem must nevertheless be presented. Nor can the misfortunes suffered by the hero be pure mischance. They must be in some way connected with the ethics of the case. Neither the execution of a criminal nor the fortuitous destruction of an innocent person gives tragic pleasure. The one is not a misfortune in the spectator's eyes; he finds no ethical problem involved, and his pleasure is merely moral satisfaction at seeing justice done. The other is so senseless and so unjust as to be simply odious. Even that apparent exception, Antigone, could not have been made a truly tragic heroine unless her obedience to the higher duty of giving burial to her brother, dictated by every humane and pious consideration, had brought her into conflict with a royal prohibition which, however tyrannical, unjust, and outrageous it might be, still possessed the force of law. At the same time, as we shall see in a moment, it is a question whether Aristotle's theory of tragedy is really broad enough to include a case like hers.

This point is brought out in the discussion to which we now turn, of the kind of man suitable for a tragic hero and the kind of fall he must experience if pity and terror are to be aroused and pleurably relieved. After pointing out that he must be a

⁷³ Cf. Butcher, *op. cit.*, p. 269.

person of eminence, since the spectacle of an obscure *bon bourgeois* falling upon evil days is not sufficiently striking to impart the full tragic effect, Aristotle takes up the moralities of the situation. The hero must not be too good, nor yet too wicked, since, as we have just noted, the spectacle of extreme virtue or extreme vice undergoing great calamity, or that of the wicked prospering, fails to produce tragic fear and compassion. As the only suitable candidate, "there remains then the intermediate kind of personage, a man not pre-eminently virtuous and just." Such a man will not be so good that his misfortunes will appear wholly undeserved. At the same time, he will be sufficiently virtuous for his misfortunes to appear "brought upon him not by vice or depravity, but by some error of judgment."⁷⁴

Just how much we are to understand by such error is an open question. Strictly speaking, it should mean merely error that arises from a lack of knowledge of circumstances that might have been known, or, in other words, from carelessness to some extent reprehensible. But it is also used by Aristotle to cover acts intentionally, but not deliberately, committed under the influence of passion. Finally, it may also mean persistent weakness of character which is more than sporadic fault and yet not actual viciousness. All three meanings, it has been pointed out, would seem to be present in Aristotle's conception of the cause of the fall of Oedipus in the *Oedipus Tyrannus*, which seems to have been his favorite play. Error thus interpreted and, for that matter, even if it were limited to a blindness beyond the control of the individual, would, we are told, allow both for the collision between man and fate and the inner division of a man against himself from which the tragic situation springs. But in its widest extension, despite the efforts of some critics to stretch it, it fails to motivate, as Aristotle's theory in general fails to color, the tragic situations based both upon the sufferings of a blameless character, not for his own sins, but for those of the world, and upon the arraying of a supremely evil will against the good.⁷⁵ Thus, as we have already

⁷⁴ *Poet.*, 13, 1452b, 28 ff.; Butcher, *op. cit.*, ch. VIII, pp. 302 ff.; Bywater, *op. cit.*, pp. 210 ff., comment on 1452b, 32.

⁷⁵ Cf. Butcher, *op. cit.*, pp. 321 ff.

had occasion to note, it would be difficult if not impossible to square Macbeth with the necessities imposed by Aristotle upon the tragic hero, and quite out of the question to bring Richard III or the Satan of *Paradise Lost* into conformity with them.⁷⁶ For that matter, though for the opposite reason, the Shakespearean Cordelia, or even Antigone, as Sophocles treats her, would seem to be disqualified by virtue of their flawless characters.⁷⁷ All in all, then, the Aristotelian specifications have proved too rigid, at any rate for more modern developments of the tragic drama.⁷⁸

We leave now the essential character of the ideal tragic hero, and pass to another question. How, we must ask, is his downfall to be accomplished if the full tragic effect is to be gained? How is his passage from happiness to misery to be manipulated? In other words, how are we to arrange the plot and depict its interaction with his character? In the first place, Aristotle replies, the character we attribute to our hero and the speeches we put into his mouth must embody the moral qualities and the thoughts that naturally lead to the admixture of good and evil fortune in his life. At the same time, since the important thing "is the combination of the incidents of the story," we must take care that the action does not seem to take place merely to illustrate the hero's character and ideas. On the contrary, the depiction of character should be merely accessory to the working out of the plot, which is "the first essential, the life and soul, so to speak, of Tragedy." Still, although the action is paramount and the delineation of character subsidiary, the action must be true to the nature described; "so that whenever such-and-such a personage says or does such-and-such a thing, it shall be the necessary or probable outcome of his character," just as in the development of the action itself "whenever this incident follows on that, it shall be either the necessary or the probable consequence of it." In short, the playwright is confronted with a problem of double causa-

⁷⁶ Cf. Butcher, *op. cit.*, *loc. cit.*; also pp. 314-315; Ross, *op. cit.*, pp. 279, 288.

⁷⁷ Cf. Butcher, *op. cit.*, pp. 309-310.

⁷⁸ Cf. Butcher, *op. cit.*, p. 333.

tion. Speeches and incidents must be the necessary or probable outcome both of preceding lines and situations and of the general psychology of the personage who figures in them. This psychology furthermore must be consistent with itself, even if that consistency lies in persistent inconsistency of word and deed; it must be like reality; and it must be appropriate to the sex, station, etc., of the person in question. Finally, and this is the most important point of all, it must be actuated by a moral purpose, and by one that is on the whole good and noble.⁷⁹

Again, the diction, or composition of the verses in which the characters express their thoughts, is, along with the music, an important element in aesthetic pleasure. But the subordination of these factors to the telling of the story is obvious. Then, too, the play must be so mounted and staged as to contribute to the tragic effect, though this is "the least artistic of all the parts, and has least to do with the act of poetry. The tragic effect is quite possible without a public performance and actors; and besides the getting-up of the spectacle is more a matter for the costumer than the poet."⁸⁰

Returning now to the manipulation of the story proper, we find that generally speaking plots are of two sorts. First, the story may be developed in a placid, continuous manner unbroken by startling events. Under these conditions the tragic hero would merely go into a sort of decline of moral character and resultant fortune that would lead gradually to his final and complete undoing. A tale so told would not be interesting. Aristotle would probably argue that it would administer pity and terror in such slightly increasing doses that we should build up an immunity to these emotions as the play progressed and receive the final and presumably lethal inoculation with no great disturbance. At any rate, as we have already seen, the incidents arousing pity and terror "have the very greatest effect upon the mind when they occur unexpectedly, and at the same time in consequence of one another." In short, the plot

⁷⁹ *Post.*, 15, 1454a, 16 ff.

⁸⁰ 6, 1449b, 31 ff. Cf. 14, 1453b, 1 ff.; Butcher, *op. cit.*, ch. IX, pp. 334 ff.; Ross, *op. cit.*, pp. 285-286.

should not be simple, but complex. The reversal of fortune should be sudden and unlooked for, and it is even more impressive if it is accompanied by a "discovery," as Aristotle calls it, or an abrupt "change from ignorance to knowledge, and thus to either love or hate, in the personages marked for good or evil fortune." The skilful combination of these two factors of discovery and "peripety," to use the technical Greek term for sudden reversal, marks the height of the tragedian's art.⁸¹ For instance, the overwhelming effect of the *Oedipus Tyrannus* lies in the simultaneity of the king's downfall with his discovery that he has unwittingly killed his father and married his mother. Or again, to choose a somewhat different example, the tragic suitability of the story of Orestes and Iphigenia lies in the hero's being snatched from death at his sister's hands by her sudden recognition of her brother at the very moment that, in her rôle as priestess of Artemis, she is about to offer him as a human sacrifice upon the altar of the goddess. It is by such tremendous doses of pity and fear, administered upon an empty stomach, as it were, to an unprepared system, that the necessary catharsis of these emotions is brought about. A useful adjunct is the depiction upon the stage of the hero's sufferings, such as his murder, or the tortures he undergoes.⁸²

Various artifices may be used to make the discovery startling. It may be connected with a "sign" like a birthmark or the scar of Odysseus, or occur from an awakened memory, a train of reasoning, or a logical slip on the part of the character concerned. The worst sort of sign is that lugged in by the poet; the best is "that arising from the incidents themselves, when the great surprise comes through a probable incident."⁸³

Again, the tragic story loses in force when the chief actors in it are hostile or indifferent to each other. "Whenever the tragic deed, however, is done within the family—when murder or the like is done or meditated by brother on brother, by son on father, by mother on son, or son on mother—these are the situations the poet should seek after." Traditional stories of this sort, like the murder of Clytemnestra by Orestes, should

⁸¹ *Poet.*, 10, 1452a, 12 ff.

⁸² 11, 1452b, 9 ff.

⁸³ 16, 1454b, 19 ff.

be kept as they are. Still, the poet must "devise the right way of treating them." The tragic deed may be committed either "knowingly and consciously," like Medea's murder of her children, or in ignorance of the relationship, with subsequent discovery, like the deed of Oedipus. "A third possibility is for one meditating some deadly injury to another, in ignorance of his relationship, to make the discovery in time to draw back."

"The worst situation is when the personage is with full knowledge on the point of doing the deed and leaves it undone. It is odious and also, through the absence of suffering, untragic. . . . Next after this comes the actual perpetration of the deed meditated. A better situation than that, however, is for the deed to be done in ignorance, and the relationship discovered afterwards, since there is nothing odious in it, and the discovery will serve to astound us." But it is best of all to have the relationship recognized just in time to prevent the commission of the act.⁸⁴

Having chosen a plot that allows of sudden reversal and discovery, "the poet should remember to put the actual scenes as far as possible before his eyes. In this way, seeing everything with the vividness of an eye-witness, as it were, he will devise what is appropriate, and be least likely to overlook incongruities. . . . As far as may be, too, the poet should even act his story with the very gestures of his personages. Given the same natural qualifications, he who feels the emotions to be described will be the most convincing. . . . Hence it is that poetry demands a man with a special gift for it, or else one with a touch of madness in him; the former can easily assume the required mood, and the latter may be actually beside himself with emotion. His story, again, whether already made or of his own making, he should first simplify and reduce to a universal form, before proceeding to lengthen it out by the insertion of episodes. . . . This done, the next thing, after the proper names have been fixed as a basis for the story, is to work in episodes or accessory incidents," taking care that they are appropriate and short. Equal attention should be given to the part of the play consisting of the complication of events leading up to the

⁸⁴ *Poet.*, 14, 1453b, 11 ff.

dénouement, and to the dénouement itself. Some dramatists are good at working up to a crisis, but poor at managing the climax in a telling manner. The dénouement "should arise out of the plot itself, and not depend on a stage-artifice." "It is necessary for both points of construction (the complication and the dénouement) to be duly mastered."⁸⁵

Moreover, the poet will find that he has a choice of emphasis. He may rely primarily upon the complex plot of sudden reversal and discovery, or upon the depiction of suffering, or upon the study of character, or upon the awesomeness of the spectacle. But the contemporary poet at any rate will aim at combining "every element of interest, if possible, or else the more important and major part of them. This is now especially necessary owing to the unfair criticism to which the poet is subjected in these days. Just because there have been poets before him strong in the several species of tragedy, the critics now expect the one man to surpass that which was the strong point of each one of his predecessors."⁸⁶

Two warnings remain to be given the would-be playwright. He must remember in the first place to be brief and to the point, and not to pad his plot. He is not an epic but a tragic poet, and he should not try to "write a tragedy on an epic body of incident (i.e. one with a plurality of stories in it) by attempting to dramatize the entire story of the Iliad. In the epic, owing to its scale every part is treated at proper length; with a drama, however, on the same story the result is very disappointing," as is attested by the poor success or flat failure of all who have attempted it. Second and last, "the chorus should be regarded as one of the actors; it should be an integral part of the whole and take a share in the action." The habit, in vogue in Aristotle's day, of introducing into a play songs that have nothing to do with its plot, and that would be equally at home in any other drama, cannot be too strongly reprehended. There is no real difference between inserting songs of that sort into a tragedy and transferring speeches or even whole acts from one play to another.⁸⁷

⁸⁵ *Poet.*, 17.

⁸⁶ 17-18, 1456a, 10.

⁸⁷ 18, 1456a, 11 ff.

Aristotle brings his discussion of tragedy to a close by pointing out briefly the best way of manipulating words in point of syntax, sound, composition, and the like, to produce a poetic effect. "The perfection of diction is for it to be at once clear and not mean." To kill these two birds with one stone is the poet's problem. In attaining his end, he may use strange, or metaphorical, or ornamental words, and he may coin, lengthen, abbreviate, or alter them as the case requires. But his use of them must be sparing and to the point. Sentences composed of metaphors are nothing but riddles, of strange words, nothing but barbarisms. "What helps most to render diction at once clear and non-prosaic is the use of the lengthened, curtailed, and altered form of words. Their deviation from the ordinary words will, by making the language unlike that in general use, give it a non-prosaic appearance; and their having much in common with the words in general use will give it the quality of clearness." Their superiority is easily recognized if we take a line of poetry and substitute for them the words in ordinary use. But care should be taken not to use them improperly and with ludicrous effect. Here, as everywhere, in the poetic vocabulary the rule of moderation should be employed. "It is a great thing, indeed, to make a proper use of these poetical forms, as also of compounds and strange words. But the greatest thing by far is to be a master of metaphor. It is the one thing that cannot be learnt from others; and it is also a sign of genius, since a good metaphor implies an intuitive perception of the similarity in dissimilars."⁸⁸

We now turn for a moment to epic poetry. A good epic, like a good tragedy, should tell a single story and be an organic whole "so as to enable the work to produce its own proper measure with all the organic unity of a living creature." Herein it differs from history, which "has to deal not with one action but with one period and all that happened in it to one or more persons, however disconnected the several events may have been." Again, a good epic, like the drama, must be either simple or complex, a story of character or of suffering, with "Peripeties, discoveries, and scenes of suffering, just like trag-

⁸⁸ *Poet.*, 20-21.

edy." It will differ from tragedy in the two minor points of not being adapted to the stage and of lacking musical interlude, and in the two major respects of length and kind of metre employed.

Again, both the epic and the tragedy may be criticized on much the same grounds. Apart from errors of technical knowledge, which after all are not artistic faults strictly speaking, the two forms of poetry are generally open to the same reprimands. The standard complaints of the critics are that the poet, whether epic or tragic, contradicts himself, that he corrupts morals, or that he is lacking in technical correctness. Such criticisms should not be made lightly or inadvisedly. So far as impossibility is concerned, it should be remembered that much depends upon the effect. If the poet can make his audience swallow the impossibility without straining at it, and can give an added poetic effect by its use, he is justified in employing it; otherwise not. A case in point is the pursuit of Hector as related in the *Iliad*—an impossibility, if you like, when carefully analyzed, but none the less telling from the literary point of view for all that. In any case "for the purposes of poetry a convincing impossibility is preferable to an unconvincing possibility," particularly if it improves upon reality artistically and makes the subject more interesting. So, too, with the improbable. Before attacking it, the critic should ask himself whether the episode may not once have actually been probable, or at least whether it is not so imbedded in accepted popular tradition that its improbability is overlooked. A modern critic, for example, who fulminated against Schiller's *Wilhelm Tell* on this score would lay himself open to both replies.

As far as immorality is concerned, before we accuse a poet of it we should do well to "consider not only the intrinsic quality of the actual word or deed, but also the person who says or does it, the person to whom he says or does it, the time, the means, and the motive of the agent—whether he does it to attain a greater good, or to avoid a greater evil." Here is another bit of Aristotelian common sense which might well be pondered by those modern censors who, instead of judging a work of art as a whole, nose out isolated words or passages that they con-

sider objectionable and adduce them as reasons for suppression of the book or play in question.

The charge that the poet is self-contradictory may be countered by an indictment of the critic for carelessness or for misunderstanding the author's real meaning. In the same way, criticisms of language must not overlook possible double meanings on the part of the poet, or metaphors, or catches in grammatical construction, or differences in punctuation, or employment of technically vague and inappropriate terms to which popular usage has given a definite meaning. Frequently, then, the problems gravely propounded by the over-hasty reviewer have their solutions.⁸⁹

In some respects the epic has the advantage of tragedy. Its length and its freedom from the mechanical restrictions of the stage "make it possible for one to describe a number of simultaneous incidents," whereas in a play "one is limited to the part on the stage and connected with the actors." This is "a gain to the epic, tending to give it grandeur, and also variety of interest and room for episodes of diverse kinds." The great trouble with tragedy is that it is apt to bore the audience with too great uniformity of incident. Again, the sense of the marvellous, so necessary to tragedy, is more easily aroused by the epic, which "affords more opening for the improbable, the chief factor in the marvellous, because in it the agents are not visibly before one." One can describe most impressively an event that would be ludicrous if actually seen. Thus "the scene of the pursuit of Hector would have been ridiculous on the stage—the Greeks halting instead of pursuing him, and Achilles shaking his head to stop them; but in the poem the absurdity is overlooked."⁹⁰

Finally, the epic has at its disposal the heroic metre, which is "the gravest and weightiest of metres," and therefore, "more tolerant than the rest of strange words and metaphors." Hence in this respect "the narrative form of poetry goes beyond all others." To write an epic in any other metre would be absurd, and it would be still more so to try a medley of metres, as one poet did. So it is that "no one has ever written

⁸⁹ *Poet.*, 25.

⁹⁰ 24, 1459b, 17 ff.

a long story in any but heroic verse; nature herself teaches us to select the metre appropriate to such a story";⁹¹ just as she has indicated the iambic, in which we instinctively tend to converse, as the most suitable for the actor's lines.⁹²

Still, and here the *Poetics* comes to an end on the same note as that on which it opened, tragedy is the finer form of poetry, when all is said and done. That reading is a more cultivated pastime than theatre-going is nothing against the tragic art. Tragedy may not only be seen on the stage; it may be read like the epic, and the mere fact of staging it does not lower it. The music and spectacle, indeed, add to its value. It is, as we long ago noted, more unified and more concentrated. In spite of certain superiorities on the part of the epic, it has almost everything of importance that the epic possesses and much besides. It is clear, then, that, "as attaining the poetic effect better than the epic, it will be the higher form of art."⁹³

⁹¹ *Poet.*, 25.

⁹³ *Poet.*, 26.

⁹² 4, 1449a, 24 ff.

CHAPTER XII

REVIEW

WE have now to pause a moment and review as a whole the ground we have traversed. We saw that Aristotle started his philosophical career as a fairly faithful Platonist. From what we know of earlier works like the *Eudemus*, or *On the Soul*, the *Protrepticus*, and possibly the earlier portions of the *Politics*, written while he was still a student at the Academy, we concluded that at that time he accepted without question the Platonic views on immortality with their attendant belief in pre-existence, transmigration, and recollection; considered ethics and even politics to be absolute sciences concerned with the nature of an unchanging, rigidly definable good, both moral and social; and also probably assented to the doctrine of the Ideas. However, scientist, naturalist, and realist that he was at heart, we found him, very soon after the death of Plato and while he was living at Assos and Mytilene, criticizing and rejecting in his dialogue *On Philosophy* and in the earlier portions of the *Metaphysics* Plato's views on the Ideas, and, in the *Eudemian Ethics* and the later portions of the *Politics*, moving away from the concept of an absolute good and an absolute ideal state towards a relativistic and naturalistic attitude. Plato's teaching that the universe was created had also been replaced by the characteristic Aristotelian insistence that it was uncreated and essentially the same from everlasting to everlasting. Nevertheless, Aristotle's outlook was still religious, and the loss of the Ideas had been compensated by the rather vague but morally oriented concept of a God who, though not the cause of the world's existence, was the explanation of its orderly character and the source of its motion.

By this time, Aristotle had two major metaphysical problems on his hands. In rejecting the Ideas he could not, of

course, deny the real existence of the formal aspect of the universe. The laws, types, classes, values, and the like which it exhibited were no less part and parcel of it than the sensible material in which they appeared. Plato had, in Aristotle's opinion, divorced the two beyond hope of reconciliation or of establishing any working relation between them. It was the Aristotelian task to find some formula that would reunite them. This was accomplished by the doctrine that *the individual, the concrete, alone had enacted existence*. Form without Matter, Matter without Form, was never found in the universe. The world was a collection of particular objects in which the two were always united.

To explain the nature of this union Aristotle developed the doctrine of the Actual and the Potential. Every particular object was double-faced. It looked both backward and forward; backward to other objects in which it discovered and realized latent capacities, forward to other objects that took up and expressed capacities existing in it in a merely potential and undeveloped manner. Thus a metal like bronze "actualized" certain potentialities in copper and tin, but this actualization meant the appearance of new possibilities that it took the sculptor to realize and express. Or again, hay, which actualized certain capacities of the soil, was itself food for cattle, and the cattle, which digested and assimilated it, were in their turn fit subjects for nourishing carnivorous animals.

We noted in this connection that Aristotle rejected the idea of any general reservoir of self-identical Potentiality or stuff that can assume all Forms indifferently. Theoretically, there was of course such a thing as pure Potentiality, or *materia prima*, but this was never found. The simplest and least developed stuffs with which we had to deal were definite *Forms* of Matter, Matter of certain sorts, like the four elements. And once we were within the universe, every object possessed the Matter it did by virtue of having the Form it had. The tiger could not feed on grass, and hence grass was not material or potentiality for the tiger to actualize. Grass had first to be assimilated by the herbivorous animals which could feed on it, and which it was capable of directly becoming; and it was the

resultant actualized deer or cattle—not the grass that entered into them—which were capable of being turned into the tiger's flesh and blood. Or again, the sculptor could not work directly with tin or copper. He could only work with them after they had assumed the Form of bronze. Bronze, for which tin and copper provided the material, was stuff for his statue. In short, each new actuality meant a new potentiality, and there were as many different kinds of material as there were different sorts of Forms.

In the Aristotelian system, then, Form and Matter became interchangeable with Actuality and Potentiality respectively. Seizing upon this idea, Aristotle proceeded to construct a pyramidal universe, based upon those materials that had the widest possibilities of further development, and slowly narrowing as out of those possibilities tier upon tier of objects were slowly built up that it took more and more levels of Actuality to bring into being. Eventually the universe narrowed down to man, whose distinctive activity—that of reason—suggested only one possible Form or Actuality beyond it. Liberate reason from its human dependence upon the body, purify it from the elements that the body introduced into thought, depersonalize it, and make it, and it alone, the object of its cogitation, and we should have an activity that was pure Actuality without any residue of Potentiality in it—a being, in other words, that was the diametrical opposite of pure potentiality and that would provide the missing apex to the world.

At first sight such a being might seem to contradict Aristotle's assertion that Form and Matter went always hand in hand, and to be as impossible of conception as *materia prima*. But such was not the case. Stuff that was not any kind of stuff was, indeed, unthinkable. But a kind of being that was its own stuff, that looked neither forward nor back, that needed nothing else to bring it into being and sustain it, and that could become nothing beyond itself, was not inconceivable. In such a being the distinction between Form and Matter, Actuality and Potentiality, would have disappeared. All capacities would have been once and for all realized, and at the same time their realization would have created no new capacity for

anything else. It would be pure Form without Matter, but not without the concreteness and particularity necessary to enacted existence. Such a being, if it existed, would be God.

Logically such a being was necessary to terminate the otherwise incomplete and truncated pyramid presented by the known universe. Practically and dynamically it was also necessary, Aristotle felt, to explain the fact that the universe was not static, but was teeming with motion, life, consciousness, and rational thought, which appeared in an ascending series. The fact and the upward direction of this universal activity demanded a cause. There must be a Mover. Furthermore, this Mover, if it was to be an ultimate cause, a prime Mover, must itself be unmoved and uncaused. Not only must it be without an efficient, creative cause, but it could have no end or goal beyond itself. For if it were moved even by an unrealized ideal, it would not be pure Actuality but a striving towards, and a stuff for, something else. At the same time, it could not cause movement by creation or efficient causation, since that would imply effort and hence motion on its part. It could not even will the world into existence, as the Christians later thought might be the case, since willing would involve satisfaction of desire and thus introduce a process destructive of its unmoved character. It could then only evoke motion as an object of desire, not as the desire itself, evoked it. For an object of desire need not even be aware of the commotion it provoked. Much less need it be changed, or altered, or in any way perturbed, by the striving towards it which it inspired. To account for motion and to find a cause for it that should be itself absolutely unmoved in the act of causation was the second great metaphysical problem which Aristotle had on his hands.

So it was that we joined Aristotle in his hunt for a form of being that should bear the earmarks of an Unmoved Mover, and were by his side as he stalked, flushed, and eventually captured it. We noted first that change was of two sorts, locomotion and qualitative alteration, locomotion being the more fundamental, and that locomotion, again, was divisible into rectilinear and circular movement and their various combinations. But change of any sort, whether it was movement in

space or shift of quality, was definable as eventually an actualization of the potential. Furthermore in all change, be it spatial or qualitative, four causes could always be found operating. There was the stuff that was altered or shifted, or the material cause; the agent that initiated the movement or alteration, or the efficient cause; the line or form that the change took, or the formal cause; and finally the end or purpose of the change, or the final cause. The last three causes could be reduced to one, since the purpose or goal was identical with the Form assumed, and again the Form initiated and directed the process needed to attain it. For instance, in the process of human reproduction, human nature was the formal cause, since otherwise a litter of kittens or puppies might just as well result; embodied in the father it was the efficient cause; and its repetition in the child was the goal or end of procreation. Thus the four causes were reduced to two, Form and Matter.

These, as we had already seen, were identical with Actuality and Potentiality, and since it was a pre-existent Form which constituted the particular shape to be assumed by the Matter, and which operated upon the Matter in such wise that it assumed that shape, and in order that it might assume it, the actual proved to be prior to the potential. Startling as it first appeared, this doctrine commended itself to us on second thought. Potentiality was not blank. It was the potentiality of a certain actual sort of thing; and to be a capacity for that thing the actuality in question had already to be present in it. The grown man had to be there somehow from the beginning in the child, stimulating and directing its growth and acting as the goal and purpose of its development, if the child was to become a man, and not a horse or a cow. And even in a case of simple, mechanical locomotion the "whither" of the movement had to be already implicit in the shove that set it going, to determine that it should follow a given line and to afford the goal or the purpose for motion of that particular sort.

Turning from these more general considerations to Aristotle's *Physics*, we saw that alteration and rectilinear movement were peculiar to our earth, whose elements and organisms were also subject to generation and dissolution; whereas the

substance of the stars was unalterable and deathless and liable to circular movement alone. We further investigated the nature of space and time, and studied the Aristotelian astronomy with its complicated system of crystalline spheres, carried one within another and revolving in different directions, by which the seeming irregularities in the movements of the heavenly bodies were reduced to perfect circular motion about the earth as a fixed centre. We paused, here, to ask whether the everlasting and invariable revolution of the outer heavens, which imparts its motion to all else, might not be the Unmoved Mover, but we found that deathless, ageless, unchangeable, and self-completing though it was, it still possessed a potentiality of "whence to whither" that unfitted it to be a first cause. We had then to double back upon the scent and pick up the trail again.

Descending to the earth we caught the scent anew. For there we found not only inanimate objects affected mechanically by movement imparted from without, but also living organisms that exhibited novel functions like nutrition and reproduction and seemed to contain the source of their activity within themselves. In short, we had come upon something that looked self-moving. In following Aristotle in his investigation of the phenomena of life we were filled with admiration at his skill as a biologist and physiologist, but any hope that mere life might be a self-sustaining, perfected activity such as we were seeking was speedily dashed. Life, we found, appeared only in conjunction with a material body, and also provided a capacity for sensation that was actualized in all except the lowliest living organisms. Thus we had to pass at once from the "vegetative soul," as Aristotle called it, to the sensitive.

Here, on the sensitive level, we explored with Aristotle the various sense organs and the mechanism of perception. Sensation, we saw, was an ingestion by the organism of the sensible forms of external objects without their matter, just as the vegetative life depended upon an assimilation of their matter without their form. We noted particularly the theory that the sense organ in the act of perceiving actually took on the quality of the perceived object—the eye in seeing red itself turned red, the ear itself rang when we heard a noise. Then

there was the question of the "common sense" that organized and unified the reports of the different organs, and also the machinery of memory and imagination, to be discussed. Aristotle, we saw, had no idea that the brain was a sensory organ, but considered the heart to be the seat of consciousness, at least so far as the common sense, the passions, and the emotions were concerned. Incidentally he had something to say about the nature of desire and the will. Our discussion of the sensitive soul left us, to be sure, apparently as far away from the Unmoved Mover as ever, since sensation could be exercised only by a living body, and the full meaning of its data could be realized only by another function—the activity of thinking about what we perceived. Still, the scent was becoming stronger. Our investigation of desire had shown us how a mover might inspire motion, unmoved itself. The object of desire was not concerned with the feeling it excited. It neither pushed nor pulled; it simply attracted without exerting any force or undergoing any inner change. Furthermore we observed that certain states of consciousness seemed to be ends in themselves. They were without will or desire. They did not wish *to do* anything or *change* anything, but were content to be themselves. In some such state of consciousness, then, lay our best chance of finding the Unmoved Mover's lair. So we were off on the next stage of our hunt, feeling that something had after all been accomplished by our study of the sensitive soul.

We now passed to the rational soul, or the function of rational thought, the last covert in the known universe that remained unbeaten. This, Aristotle felt, was confined to man alone, though he insisted that no abrupt break could be made between animal and human consciousness. The human infant was born on the animal level, and only as it grew did it become rational. The distinctive mark of reason was its capacity for grasping the universal in the particular. It abstracted from the individual thing its intelligible Form, or essential nature, just as sensation sucked from it its sensible form, or perceptible qualities. Here we found a certain unresolved inconsistency in Aristotle's doctrine, since knowledge ought to have reality

as its object, whereas not the universal, with which it was concerned, but the concrete particular, which as such could not be wholly known, was the only real thing.

We next remarked certain connections and analogies between the activities of sensation and reason. Reason actually became the intelligible Forms it comprehended, just as the sense organ itself actually turned the quality it perceived. Again, just as the senses could not go behind sense data but had to accept them as irreducible and ultimate, so thought had simply to accept the Forms it came across for what they were. The essential nature of cat or dog, like red or cold, could not be analyzed into anything else. Nor were they developed or compounded not of other Forms. Even so comprehensive a genus as "animal" had its irreducible aspects. Its definition was not made up of the definitions of its different species, and did not need to refer to them in any way. At the same time, just as the "common sense" organized the data of the different senses into perceptible objects, so there was a function of "synthetic" or "discursive" thinking that combined Forms into propositions, argued from one proposition to another, and thus built up out of simple unanalyzable Forms a complex "body" of truth.

It was here that the possibility of error entered into thought. There could be no more question of mistake in apprehending the Forms we apprehended than in perceiving the sensible data we perceived. What we felt, we felt, what we thought, we thought. But just as the "common sense" might err when it came to referring sense data to external objects, so reason might go astray when it came to fitting the Forms together in the pattern in which they really belonged. This capacity of the intellect for error was also bound up with the association of the human mind with a body. Any intellect dependent upon the reports of the senses for its first information found its intelligible objects imbedded in a crumbling subsoil of obscure and contingent events sliding from the past to the future, whose why and wherefore was not apparent. Furthermore, so long as the mind had a body it could not even think without imagining its thoughts in sensible terms, and hence could never lift

them entirely clear of the clinging irrational element. Thinking, like perceiving, was an uncertain business. Only rarely, if at all, could one say "I know." For the most part reasoning could never get us further than tentative opinion. Given this inherent capacity for error, along with the necessity for thinking things out and the difficulties, under which the intellect labored, of attaining even provisional knowledge, our investigation of the rational soul seemed to be without result and to bring us little nearer the Unmoved Mover.

But the moment that we examined the ground more closely we discovered convincing evidence that our quarry, though hidden to the casual glance, could not be far away. For whereas sensation, being actually a reception of physical qualities, was in its potential state a capacity resident in certain physical organs, the intellect, being actually a reception of immaterial Forms, must even in its potential state be non-physical, since the concrete and the individual could not turn into the universal and the abstract, and vice versa. A physical object, for example, might become circular, but it could not become circularity. On the other hand, the mind could not become circular, but it could and did identify itself with circularity when it entertained the concept or Form in question. In short, the potentiality of thinking did not lie in any bodily disposition, as the potentiality of sensation did. It could not be there, indeed, unless the body were there. But, when thought ceased no organ of thought remained, as the eye remained when it was closed. The intellect, then, had no stuff of its own, just as it had no structure of its own, apart from the ideas it entertained. Potentially it was a mere "place" where Forms might appear; actually it was simply the appearance of those Forms at that place.

Moreover, when a sense-organ perceived an object, it never assimilated it in its entirety; but when a Form was thought, it was all there. Then, too, although your sensation, say of an orange, was different from my sensation of it, my concept or definition of the orange was identical with yours. There were not two truths about the orange, yours and mine. There was only one truth, and that truth was somehow wholly and

indivisibly present in your intellect and in mine at one and the same time. Nay more, since thinking was nothing but the presence of thoughts or Forms, it looked very much as if your intellect and mine merely afforded two different "places" for the same Forms to appear. But when these Forms did appear and constitute what was actually being thought about, then the same thinking of the same thought was present in us both. It was only the possession of different bodies, and the association of the Forms with the different sets of images provided by different sets of sense-organs, that made our minds look as if they were also different and individual. This difficult point was illuminated by the every-day experience that, when two people are at work upon the same problem, they tend, as they become absorbed in it, to lose consciousness of themselves, to forget their difference from one another and from the common object of their thought, and to become actually a single mind with a single object in view. All that separates them is the fact that that mind is located in two bodies instead of one.

By this time we saw that we had cornered an Unmoved Mover if only we could be sure of our ground. The pure, impersonal activity of reason was the highest and the most enjoyable of all activities, and hence a fit object of the world's desire. Towards it all change might climb; for love of it the heavens might revolve. Furthermore it was purely contemplative. It did not desire, or wish, or will anything beyond itself. It needed no outer conditions to feed and sustain it. Nor was there anything higher to which it could contribute. In the vision of the truth, the whole truth, and nothing but the truth there was no looking backwards or forwards, nothing left for reason to assimilate, nothing more in which it could receive further expression. The vital question was, then, did such an activity exist? Our only experience of it lay in ourselves, and there it was only fleeting. One moment we had the truth in our grasp, the next it was gone. We alternated between light and darkness, with intervening periods of waiting for the dawn and of seeing the vision fade away in the twilight of forgetfulness. If this intermittence lay in the nature of the vision itself and not in the fallibility of human nature, then our

sense of triumph was premature, and perhaps the Unmoved Mover had escaped us for good and all.

At this juncture, we remember, Aristotle appealed to the priority of the actual. The passage from Potentiality to Actuality was inspired and directed by the Form of the thing that the potential was to become. Thinking was no exception to this rule. It must be brought from the potential to the actual by that which it became. Now, in every case with which we had heretofore dealt this passage involved a change of quality or position. The object became *other* than it was before. The bronze, at the sculptor's behest, turned into a statue; the child, directed by the human Form within him, grew to a man. But the possibility of thinking was not something different from thinking itself. Possible thoughts did not change their character when they came to be actualized, as the possible statue in the rough changed into the actual statue. Forms, whether present or absent, were the same Forms. The only difference between their actual and their potential state was simply the difference between presence and absence. The actualization, then, of the potential intellect, or the passage of the intellect from passivity to activity, meant not a transformation from below. It meant a sudden flash of information from above. And this flash could take place only if the information were really there. The partial and intermittent appearances of the Forms in the different "places," or potential intellects, connected with different sentient bodies could only be explained, then, on the hypothesis that the whole truth, the entire intelligible system of Forms, existed of itself, and grasped itself in a single, all-comprehending act of thought, to which space, time, and individuality were irrelevant.

This act of thought that constituted our minds when they were active was not, of course, a personal consciousness. In fact, when it was present and operative in us so far as our bodies were able to receive it, it abolished our individual personalities and turned us, if we could still speak of *us*, into mere "places" where the truth could display its impersonal and universal nature. The universe was like an opaque substance

dotted here and there with holes. The opaque substance was the physical world, whose enactment of the Forms dimly revealed the intelligible structure of the universe through an obscuring, distorting medium of change and space and time. The holes through which the light of truth could shine without let or hindrance were our passive intellects. When our reasons were not active, these holes were blank. When we were puzzling and arguing, they were more or less faintly luminous. But at those rare moments when the capacity of the intellect was fully realized and the truth was revealed, these holes were completely transparent to, and indistinguishable from, the intelligible system of Forms that filled them.

The active reason in us survived our death. But this did not mean that we were personally immortal. On the contrary, our sensory experience, emotion, desire, will, and passive reason—in a word, all that made us people and individuals—went out of existence when the body was destroyed. The hole that with its semi-luminous rim of life, sensation, and passion, and its flickering content of Forms, constituted you or me was simply closed and done away with when we died, although the impersonal, timeless thinking of the Forms by themselves, which at times crowned and illuminated our experience, was not disturbed. We noted at this point the distance that separated this view from the Platonic doctrine of personal immortality held by Aristotle in his youth, when he wrote the *Eudemus* in memory of the friend who fell in battle fighting with Dion in Sicily.

It looked now, as if we had found in the active reason a state of being that would serve as the Unmoved Mover. Indeed many critics have identified this activity with God. But the point, we found, was open to discussion and controversy. The active reason comprised the whole intelligible structure of the universe, the entire ladder of Forms from the lowest to the highest. But a perfectly self-contained and self-satisfied activity could scarcely be occupied with a subject other than itself and with a multiple and complex subject at that. Moreover, the highest Form in the whole realm of being must be the nature of reason itself. The best Form of being, then, would be a Form of active reason that was concerned, not with other

Forms, but simply with its own. Its thought must be merely a thinking about thinking. This view seemed to be more in accordance with the Aristotelian text and to have perhaps the weight of critical opinion in its favor. So we ended by conceiving the Unmoved Mover as an activity of reason meditating simply upon the nature of reason as such, not only careless of the fortunes, but ignorant even of the existence, of anything besides itself.

We pointed out in passing the logical difficulties of such a concept and its inadequacy as an object of religious devotion and as a source of religious consolation. We also found Aristotle in somewhat of a quandary as to whether there were one or many such Movers. His primary impulse was monotheistic, but the monotheistic hypothesis would not explain the plurality of equally perfect circular motions demanded by his astronomy. It seemed as if each separate sphere must have its own prime Mover to keep it revolving in its particular direction. Hence we were obliged to raise and leave open the question whether Aristotle succeeded in remaining a monotheist, or had to turn polytheist at the end. But whatever his decision might be, we were sure it would be dictated by purely scientific motives, since we had come to the conclusion that his theology was, after all, a sort of super-physics, and that the existence and nature of his God were primarily and essentially a necessary scientific hypothesis rather than a matter of religious experience and belief.

Having disposed of Aristotle's study of the physical sciences, and his biology, psychology, theory of knowledge, metaphysics, and theology, we took up his logic. Here we found him first analyzing our thinking with its ultimate parts of speech, or categories. Most important of these was the category of *substance*, to which he devoted considerable attention. He then turned to the propositions in which terms are so connected as to express an action or situation of some sort, and laid down the rules governing the correct positive and negative inferences that can be drawn from a simple statement. This led him to a consideration of things like distribution, conversion, inference by opposition, and the like. Next, we saw

him dealing with more complicated propositions in which subject and predicate were linked together, either explicitly or implicitly, by a third or middle term, and developing the structure of the syllogism in all its variety, with its major and minor premises and its conclusion. The technical correctness of syllogistic inference was, we discovered, independent of the soundness of the premises or of the actual existence of objective counterparts to the terms employed. Argument about non-existents was, however, useful as a logical exercise, and we had always to remember that in most of our reasoning we were concerned, not with certainties, but with probabilities only.

After this discussion there came an exposition of the so-called "theory of the predicables," in which the difference between essence, property, and accident was explained, and instructions were given for the proper method of reaching the genus from the species, or the species from the genus, through an ever widening or progressively narrowing series of concentric, distinguishing characteristics, or *differentiae* as Aristotle called them. Then came an enumeration and analysis of the various logical errors by which our thinking is habitually beset, and then Aristotle took up the subject of inductive as opposed to deductive reason. Heretofore, we had been concerned with arguing from general principles to particular cases. It now became our business to discover how general principles were obtained.

Clearly they were obtained by a comparison of individual data and an extraction of the common element. Aristotle attempted, though not too successfully, to apply the syllogism to this process. There was always a doubt whether all possible cases had been observed, and therefore whether any absolutely certain sweeping statement could be made regarding them. Still, in spite of this difficulty we could directly grasp or intuit more and more universal features in things. An object was *some* kind of object, a *kind* of object was a subdivision or species of some wider class, till eventually we reached the widest possible concepts or categories, which science and philosophy had to take as their premises. These concepts could not be demonstrated since they could not be made examples of any more general

form or rule. No reason could be demanded for anything that we considered to be itself an ultimate reason for everything.

This consideration involved us in a discussion of the method of science. Science, we saw, was primarily a process of induction, of extracting general laws and forms from particular data. But in this process something had to be taken for granted, and that something had to be true. Pure logic could infer technically correct conclusions from false premises, and practically useful conclusions from ones that were only probable. But the premises from which science started must correspond to objective fact. The conclusions drawn from these axioms had to follow from them necessarily, paralleling the necessity with which in the objective world the effect must follow from the cause. The object of science was so to apply these axioms that in its subject matter the difference between essential and accidental properties was laid bare. A good part of science, then, consisted of accurate *definition* of the phenomena under scrutiny. The datum had to be related to its highest genus by the proper series of concentric *differentiae* arranged in their correct order. In this way we discovered the essential property that was "commensurately universal" with its subject. Moreover, scientific demonstration involved a reference to the objective cause of the phenomenon in question. And it must show, not only that the phenomenon followed necessarily from the adduced cause, but that no other cause could produce it. The logical sign of such a connection would be a "reciprocating proposition," in which subject and predicate were co-extensive and capable of conversion without changing the extension of either in the process. To reach such a proposition, the correct objective link or middle term that connected the event with its cause, or, in other words, that was "commensurately universal" with the event, must be rigidly determined. All in all, then, the method of science was one of continually testing and correcting inductive inference of universal laws from particular data by a reverse deduction of the data in question from the universal law they suggested.

From the *logic* we turned to Aristotle's ethical theory. Here we found a development of thought similar to that which char-

acterized the growth of his metaphysical speculations. He began as a good Platonist convinced that there was an absolute Good laid up in heaven, and that ethics was an exact science whose business it was to discover a mathematically rigid and universally applicable formula of right living. This he found in the life of God, upon whom he felt that man should model himself. But by the time he came to write the *Nicomachean Ethics* he had become wholly realistic or relativistic in tone. Ethics was now an empirical, not an exact science, and the only good with which it was concerned was one determined by the nature and the activities of the human organism and valid for them only. The imitation of God had practically disappeared, except in so far as our highest activity, that of reason, gave some faint indication of what the divine life was like. But this activity, we noted, fell entirely outside the strictly moral sphere, and was indeed at its best in us when we took a thoroughly scientific, impartial, non-moral attitude towards life. Morality, in short, had become a purely human affair without supernatural implications or support.

Proceeding in accordance with this conclusion, Aristotle defined the human good as that which was sought for its own sake and for the sake of which all else was desired. To such an end we all agreed that the term *happiness* might be applied. Various candidates for this position and title, like wealth, fame, amusement, pleasure, or some absolute Platonic Good, were interviewed one by one and their pretensions disallowed. Some of them were obviously means to a further end. Pleasure, to be sure, was not quite in that class. It was an inevitable companion of happiness, upon which it rested like the bloom of youth upon a mature cheek. However, its goodness was not intrinsic but was conditional upon its accompanying such activities as made for happiness.

Happiness, then, still had to be defined. Its nature Aristotle now located in the exercise of man's distinctively human activities. What set man apart from the other animals was his possession of reason and his ability to live according to its dictates. Happiness, in a word, lay in self-realization—the completest possible flowering of the whole man as a rational

being. To attain happiness of this sort a certain length of life and certain external conditions were necessary. Still, the core of happiness, the life of reason, was practically proof against misfortune. It could be had and lived even under comparatively painful external circumstances.

Happiness being thus defined, we had next to ask how it could be obtained. This question opened up a discussion of the nature of moral virtue or excellence. Living rationally meant organizing and harmonizing the different activities of our nature according to a certain rule, conformity with which made them morally good, departure from which, morally evil. This rule was the famous *golden mean*. Morally virtuous or excellent action was a mean between the extremes of deficiency and excess, both of which were vices. This fact Aristotle exemplified at length, showing also that repeated action in accordance with the mean built up a virtuous habit of behavior. At the same time he took care to point out that even the golden mean was relative to the individual involved. What was right for one man might be wrong for another. Determining rights and wrongs demanded the exercise of reason with respect to each particular case. Furthermore, we were never to forget that the moralistic life was not an end in itself but a means to something higher, in promoting which it found its only justification. Virtue was not practiced for virtue's sake but for the sake of happiness. Indeed, if its practice brought unhappiness it was not virtue.

To the nature of justice Aristotle devoted considerable space, and here he opened up a new vista. The justice or injustice of an act, we found, depended upon the *intention* of the agent. Indeed the question of moral virtue could not be adequately discussed without considering moral responsibility, and this in its turn demanded a definition of voluntary as opposed to involuntary or non-voluntary behavior. An act, we decided, could not be called voluntary unless it were committed under no external compulsion, with full cognizance of the circumstances, and as the result of a deliberate choice. Whether moral responsibility also necessitated freedom on the part of the agent to act independently of the pressure of his own nature

was a problem that Aristotle only vaguely approached and never dealt with.

From the question of moral, Aristotle not unnaturally passed to that of intellectual virtue, since the exercise of wisdom was the essence of morality. Such wisdom was of course practical, directed as it was upon every-day life. But its excellence lay in the soundness of the vision that it brought to bear upon practical problems, or, in other words, in its apprehension of the truth. Generally speaking, then, whether practical or theoretic, intellectual virtue consisted in thinking logically and truly. Quite apart, too, from its practical utility, the contemplation of truth was an end in itself, and was productive of pleasure and happiness. Indeed, being the highest of our activities, it was the richest of them all in its contribution to happiness, and the enjoyment that attended it was the supreme pleasure. So, from all points of view, any hard and fast distinction between purely speculative and practically useful thinking tended to break down.

There remained a final difficulty of explaining why the organism was so refractory to the guidance of reason, and why, with eyes wide open to what was best for us, we deliberately acted against our own interest. The answer lay in what Aristotle called *incontinence*—or an habitual tendency in human nature, grounded in passion and desire, to refuse to act in accordance with knowledge of the good. This refusal, however, was not irrational. The rebellion of desire was not a pitting of unreason against reason. Passion put up an argument, and the conflict was one of syllogism with syllogism. Desire stated that all pleasant deeds should be performed, and was sure that the contemplated act was pleasant. Reason declared that deeds of the sort in question should not be performed, but it might not be quite sure whether the contemplated act fell within that class. Hence through weakness of its minor premise it might present the feebler case. And logic, not passion alone, demanded that action should embody the conclusion drawn from two strong premises rather than from one strong and one weak one. When, however, there was no hesitation in the minor premise of the rational syllogism we had either

virtue or out-and-out vice—virtue, when we were *sure* the misdeed suggested by passion *ought not* to be done and therefore did not do it, vice when we were *sure* it was the thing to do, and, therefore, having no scruples on that score, proceeded to perform it.

In the books on Friendship introduced into the *Nicomachean Ethics* Aristotle shifted from the individualistic to the social aspect of morals, and thus prepared the way for his discussion of the state. We found him distinguishing three types of association, friendships based upon the reciprocal benefit and the reciprocal pleasure individuals get out of their partnership, and the friendship of the good in which the individual is loved not for what we may get out of him but for himself alone. The last type of social bond led Aristotle to take up the question of self-love and self-interest. Here we discovered that in the long run selfishness and altruism became indistinguishable, since man's true self was social and included other people. To love this self was to love others, and conversely love of others was the deepest form of self-love.

Coming at length to Aristotle's theory of politics, we saw that here as elsewhere he had had his Platonic epoch. The earlier portion of the work showed a belief in the feasibility of Utopias, though not of the Platonic ideal commonwealth. This he was already criticizing at length. The gist of his criticism—that the individual himself could not be communized and rendered immune to the distinction between mine and thine—we may remember, as also the contention that without private interest there can be no public interest, since all interest is located in the individual and is felt by him as *his*. To communize women and children and property would, then, by outraging his instinctive private interests create an irreconcilable conflict between the common and the private welfare, and would deprive the individual of the self that he should freely put at the service of society.

Upon this preliminary criticism of the Platonic and other Utopias there followed the construction of his own ideal state—a very small, self-contained, self-sufficient community governed preferably by one man of superlative wisdom, but, fail-

ing that, by a superior governing class, or, at a pinch, by a democratic government under strict constitutional limitations. Upon the advantages of kingship Aristotle expatiated at length. Upon the necessity of limiting any and every form by a constitution and thus preventing kingship from degenerating into tyranny, aristocracy into unbridled oligarchy, and democracy into mob rule, he was emphatic. To the breeding and education of the citizens of the ideal state he devoted considerable space, stressing eugenics and regulation of the birth-rate in the one case, and in the other the function of liberal education as a preparation primarily for knowing how to live rather than how to make a living.

In the later portions of the *Politics* Aristotle had no more to say about Utopias, but devoted himself to an analysis of conditions as they actually existed. One by one he took up the various forms of government, even the hated tyranny and the despised mob-rule of democracy at its worst, analyzed them, pointed out their characteristic weaknesses, and prescribed for them with an almost Machiavellian cynicism the measures they should adopt if they wished to survive. In particular he warned them of the plague of revolution that threatened them all alike, and explained, with applications to each particular case, its causes and its cure.

Finally in Book I, which we treated as a kind of addendum, we saw Aristotle endeavoring to show the naturalistic basis of the state and of social institutions. Man was instinctively a social animal, and upon this gregarious instinct the state rested, though the more complex aspects of society were also the result in part of deliberate planning. From the biological fact of the association of two individuals in reproduction arose the family, the primary social unit; from the association of families came the village; from that of villages the commonwealth. To the family, then, we might look for the root of all social restitution and interest, and there we actually did find them in embryo. The management of the family by the husband presaged government and especially monarchy; the simple belongings that it necessarily amassed foreshadowed the institution of property; its subjection and domestication of

lower animals justified slavery. The book ended, and with it our review of the *Politics* terminates, in a discussion of the status of slaves.

Last of all, we have just been watching Aristotle deal with rhetoric and the fine arts and especially with tragic poetry. But here our memory should not need to be jogged.

APPENDIX

I. CHRONOLOGICAL TABLE

399. B. C. *Trial and execution at Athens of Socrates on charges of impiety and corruption of the youth by his teachings.*
- 399—395. *Plato, along with other pupils left Athens for political reasons. Many, Plato among them, took refuge with Euclid at Megara. Further possible travels of Plato in Egypt and Cyrene. Possible return to Athens about 395.*
- 399—394. *Sparta at war with Persia, as a result of Persia's retaliatory expedition against Greek cities of Asia Minor that took part in the Anabasis of Cyrus. The Persian satrap, Tissaphernes, defeated by the Spartan King, Agesilaus. Persia in revenge stirred up Corinth against Sparta. Corinth joined by Thebes, Argos, and Athens. Aided by the Persians, the Allies defeated the Spartan fleet at the battle of Cnidus (394) and inflicted so severe a check upon the nominally victorious Spartan army that the victors could not exploit their success, but retired to the Peloponnesus. The Athenian admiral Conon rebuilt the long walls with the aid of Persian money and men.*
391. *The Carthaginians were all but expelled from Sicily by Dionysius I.*
- 395—387. *Possible further travels of Plato. Composition of the earlier dialogues Euthyphro, Apology, Crito, Charmides, Laches, Lysis, Euthydemus, Protagoras, Gorgias, and Meno, and possibly the Symposium and the Phaedo, the first part of the Republic and Phaedrus.*
387. *Plato's first trip to southern Italy and Sicily. Visited the Pythagoreans and particularly the philosopher Archytas at Tarentum. At the in-*

- visitation of Dion, brother of Dionysius I of Syracuse, he extended his visit to Sicily and visited at the tyrant's court. As the result of a quarrel with his host, he was sold into slavery, ransomed by a friend, and returned to Athens.*
387. Peace of Antalcidas between the Greek states and Persia. Greek cities of Asia Minor abandoned to Persia. Athens retained islands of Lemnos, Imbros, and Scyros. Foundations of second Athenian Empire laid.
- Circ. 387. *Plato founded his Academy at Athens.*
- 387—367. *Plato taught at Athens. Composition of the rest of the Republic, of the Theaetetus and the Parmenides.*
385. *Birth of the philosopher Aristotle at Stagira in Thrace.*
383. Birth of the anti-Macedonian orator Demosthenes.
382. Birth of Philip of Macedon.
- 379—362. Wars between Sparta and Thebes.
378. Athens joined Thebes against Sparta. New Athenian Empire formed, consisting of a confederacy of seventy communities. Spartans repeatedly defeated at sea by the Athenians.
377. *Death of the philosopher Euclid, the founder of the Megaric School.*
371. The Battle of Leuctra. The Spartans signally defeated by the Thebans under Epaminondas. Sparta made peace with Thebes and Athens.
- 371—362. Hegemony of Thebes.
370. The Peloponnesus invaded by the Thebans under Epaminondas and Pelopidas. Sparta aided by Athens.
369. Second Theban invasion of the Peloponnesus.
367. Third Theban invasion of the Peloponnesus.
367. Death of Dionysius I of Syracuse. Accession of Dionysius II under the tutelage of his uncle Dion, Plato's friend.
367. *Plato's second trip to Syracuse, to instruct Dionysius II, at Dion's behest, in the art of government, and incidentally with the hope of*

- trying out the theories of government expounded in the Republic.*
367. *The youthful Aristotle arrived from Macedon at Athens during Plato's absence, and became a student at the Academy.*
366. *Plato after an unfortunate and unsuccessful sojourn at Syracuse, embittered by Dionysius' exile of Dion, returned to Athens.*
365. *Death of the philosopher Antisthenes, founder of the Cynic School.*
362. *Fourth Theban invasion of the Peloponnesus.*
362. *Battle of Mantinea. The Thebans successful, but Epaminondas killed. General peace made among all Greek states, from which Sparta alone held aloof.*
361. *Plato's third trip to Syracuse at the invitation of Dionysius II, and in the hope of reconciling the tyrant with Dion. This trip as unsuccessful as the second. Plato finally disillusioned in his hopes of Syracuse. Quarrelled with Dionysius. Remained for a year virtually a prisoner.*
360. *Plato returned to Athens.*
- Circ. 369—360? *Plato probably wrote the Sophist, the Statesman and the Philebus.*
359. *Accession of Philip II to the throne of Macedon.*
- 357—356. *With the approval of Plato, Dion fitted out an expedition against his uncle Dionysius II. The expedition successful. Dionysius fled and Dion seized the city, only to be assassinated by his fellow-pupil at the Academy, Callippus.*
- Circ. 356—347? *Plato wrote the Timaeus, the Critias and the Laws.*
357. *Philip of Macedon, extending his power in Thrace, began his encroachment upon Athenian possessions. Alliance with Olynthus against Athens.*
- 357—355. *As a result of the so-called Social War of the Athenian League against Athens, the second Athenian Empire began to fall to pieces. Chios,*

- Cos, Rhodes, and Byzantium revolted successfully and established their independence.
356. Birth of Alexander the Great.
- Circ. 356. *Death of the philosopher Aristippus, the founder of the Cyrenaic School.*
355. Beginning of the second Holy War by Thebes, Locris, and Thessaly against the Phocians who had plundered the temple at Delphi. Philip of Macedon interfered in the struggle and defeated the Phocians.
352. Philip advanced as far as Thermopylae, where he was opposed and his progress temporarily checked by an Athenian army.
351. Demosthenes delivered his first "Philippic," warning Athens against the rising power of Macedon.
348. The Chalcidic towns in Thrace, leagued with Athens against Philip, were insufficiently supported by her and were conquered by him one by one.
347. *Death of Plato at Athens.*
346. Peace of Philocrates, by which Athens tamely ceded all occupied territory to Philip. Philip pushed through Thermopylae, advanced to Delphi, and had himself elected to the Amphictyonic Council.
- 347—343. *Aristotle, having left Athens after Plato's death, lived for a time with his friend Hermeias, Prince of Atarneus and Assos, and then at Mytilene on the island of Lesbos, where he devoted himself to biological research. To this period belong some of his biological treatises, probably the dialogue On Philosophy, the Eudemian Ethics and the earlier portions of the Physics and Metaphysics, possibly also certain portions of the Politics. After Hermeias' death, Aristotle married his niece and adopted daughter, Pythias, by whom he had a daughter of the same name.*
- 346—344. Extension of Macedonian power in Thrace, Thessaly practically incorporated in the Mace-

- donian kingdom. Philip intrigued in the Peloponnesus and defeated the Spartans.
343. Macedonian invasion of Epirus. Revolt of Thessaly, instigated by Athens, put down.
343. *Aristotle invited by Philip to come to Pella, the Macedonian capital, and tutor the young Alexander the Great.*
- 343—340. *Aristotle at Pella.*
342. Outbreak of war between Macedon and Athens.
341. Demosthenes' third "Philippic" oration. Alliance of Athens with Byzantium, and later with Achaea, Arcania, Leucas, Corinth, and Megara.
340. Philip made Alexander regent, and *Aristotle's period of tutoring the prince ended.*
- 340—335. *Aristotle perhaps at Pella, but more probably at his native town, Stagira.*
340. Philip besieged unsuccessfully Byzantium and Perinthus.
339. Relief of Byzantium by the Athenian fleet.
339. The Amphictyonic Council appealed to Philip for aid in punishing the Locrians, whom they accused of sacrilegious treatment of Delphi. Philip seized the opportunity, gained permission from the Thebans to cross their territory on his punitive expedition, passed Thermopylae and entered Boeotia. Demosthenes was sent on a mission to Thebes, and succeeded in winning her over to the Athenian cause.
338. Battle of Chaeronea, Alexander's first appearance on the battle-field. Decisive defeat of the Allies, followed by the submission of Athens and all the Greek states, save Sparta, who alone held out.
338. Congress of Corinth. The Greek states all united under the suzerainty of Philip, but with local autonomy.
336. Assassination of Philip. Accession of Alexander the Great. Unrest among the subject-states. Revolt of Thebes suppressed and the city razed to the ground.

335. Alexander crossed into Asia and attacked Persia.
335. *Aristotle returned to Athens and founded the Lyceum. To the next twelve years belong, with the exceptions already noted, all his extant works. Also, during this period, probably, his wife died. After her death he became attached to a lady from Stagira named Herpyllis, whom he never legally married, but by whom he had a son Nicomachus, later editor of the Nicomachean Ethics.*
- 334—330. Alexander's Persian Campaign. The battles of Granicus (334) in the Troad, and Issus (333) in Cilicia, the capture of Tyre (332) followed by the submission of Palestine and Egypt. Triumphant entry into Memphis. The founding of Alexandria. Alexander received from the oracle at Ammon the assurance that he was the son of Zeus and semi-divine. Return to the Euphrates (331), Battle of Arbela near Nineveh (331). Entry into Babylon. The fall of the Persian Empire. Death of Darius III (330).
- 327—323. *Growing coolness between Aristotle and Alexander. Callisthenes, Aristotle's nephew, historian of the Expedition, unjustly accused of treason and executed. Aristotle himself accused of disloyalty.*
327. Alexander invaded northwestern India and crossed the Indus. Battle of the Hydaspes. Defeat of Porus, the local king. Conquest of the Punjab. Refusal of the soldiers to proceed further eastwards (326).
326. Alexander descended the Indus to its mouth. Conquest of the lower Punjab and Sind. The storming of Mooltan. Alexander wounded. Return northward through Baluchistan.
324. Descent of the Euphrates. Death of Alexander's bosom-friend, Hephaestion. Return to Babylon.
323. Death of Alexander.
323. Revolt of Athens and other Greek cities against

Antipater, the Macedonian regent, an intimate friend of Aristotle's. Beginning of the Lamian War.

323. *Aristotle suspected of pro-Macedonian sympathies, and accused of impiety. Retired from Athens to his country estate near Chalcis in Euboea. His friend and pupil Theophrastus left in charge of the Lyceum.*

322. *Death of Aristotle near Chalcis.*

322. End of the Lamian War. Athens garrisoned by Macedonian troops. Flight and death of Demosthenes.

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